



VIRAL HEPATITIS IN WEST VIRGINIA

2020 Surveillance Summary

May 2022

**Viral Hepatitis in West Virginia
2020 Surveillance Summary**

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West Virginia Viral Hepatitis 2020 Surveillance Summary
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Viral Hepatitis Surveillance Overview

Hepatitis is an inflammation of the liver most often caused by a virus. In the United States, the most common types of viral hepatitis are hepatitis A, hepatitis B, and hepatitis C. While they can produce similar symptoms, each hepatitis virus affects the liver differently and has different routes of transmission and infection. Fortunately, effective vaccines are available to help prevent hepatitis A and hepatitis B. Although no vaccine is available for hepatitis C, life-saving treatment can cure the virus.

Viral hepatitis infections are reportable conditions in West Virginia. The reporting process for hepatitis A, hepatitis B and hepatitis C is required by West Virginia State Code under the West Virginia Reportable Disease Legislative Rule (64CSR7). The rule establishes procedures governing the reporting of certain diseases and conditions, unusual health events, and clusters or outbreaks of diseases to the Bureau for Public Health. It also establishes the responsibility of various individuals and facilities in controlling communicable diseases. Disease information is captured in the West Virginia Electronic Disease Surveillance System (WVEDSS) through laboratory reports, provider reports, and case-patient interviews.

There are several limitations that should be noted to the data summarized in this report. In addition to the laboratory and/or provider reported viral hepatitis results, information captured in the disease case investigation relies on the local health department successfully contacting the case-patient and performing an interview style investigation. The information collected in disease investigations relies on self-reporting by the case-patient. This can make case investigation completion difficult and/or inaccurate if the case-patient has issues with recall, does not wish to complete the interview, or provides

false information. Further, the statewide COVID-19 response began in West Virginia in March 2020, requiring most public health professionals to direct their resources to detect, investigate, and attempt to reduce the spread of COVID-19. This ongoing response impacted the completeness of acute hepatitis A, acute and chronic hepatitis B, and acute hepatitis C reports.

The data presented in this report are provisional as the information captured in WVEDSS is continuously reviewed for quality assurance purposes and subject to changes as duplicate profiles are merged and additional laboratory and/or clinical information is received.

Hepatitis A Virus (HAV)

Disease Overview

Hepatitis A is a self-limiting, vaccine-preventable liver disease caused by the hepatitis A virus (HAV). The best way to prevent HAV infection is through vaccination. It is transmitted person-to-person through contact with the stool of an infected person or the consumption of contaminated food and water. Symptoms of HAV can include fever, fatigue, nausea, vomiting, loss of appetite, abdominal pain, dark urine, and clay-colored stools. Infected persons generally experience symptom resolution within two months of onset, though more severe cases may require hospitalization.

HAV in West Virginia

In March 2018 (Figure 1.1), West Virginia identified an increase in HAV cases that were later linked to a multistate HAV outbreak. The increase occurred primarily among those who used drugs, were unstably housed, or who were recently incarcerated. In 2020, the statewide outbreak, which included 2,732 cases, was closed.

The majority of the reported HAV cases in 2020 were male (Figure 1.2) and reported their race as White and their ethnicity as not Hispanic or Latino (Table 1.1 and Table 1.2). Cases were observed among adult age categories, with the highest counts observed among the 30-39 and 40-49 age groups (Table 1.3). Drug use, either injection or non-injection, was the most reported risk factor (Figure 1.4).

Figure 1.1. Acute HAV Incidence Rates in West Virginia, 2016-2020

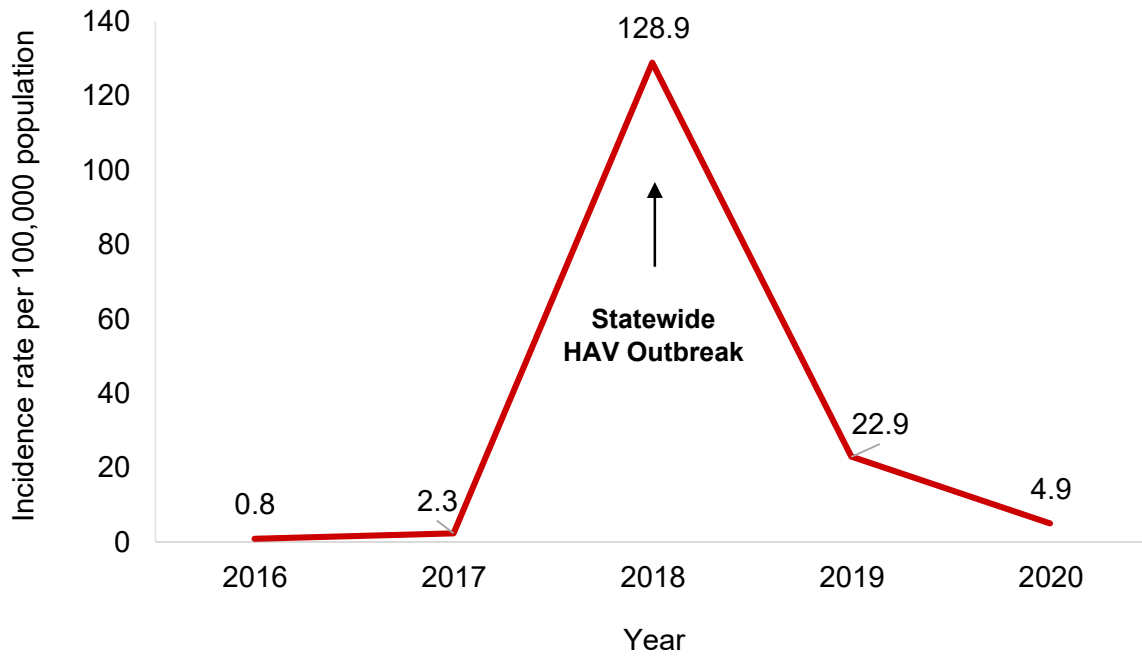


Figure 1.2. Acute HAV Cases by Sex in West Virginia, 2020

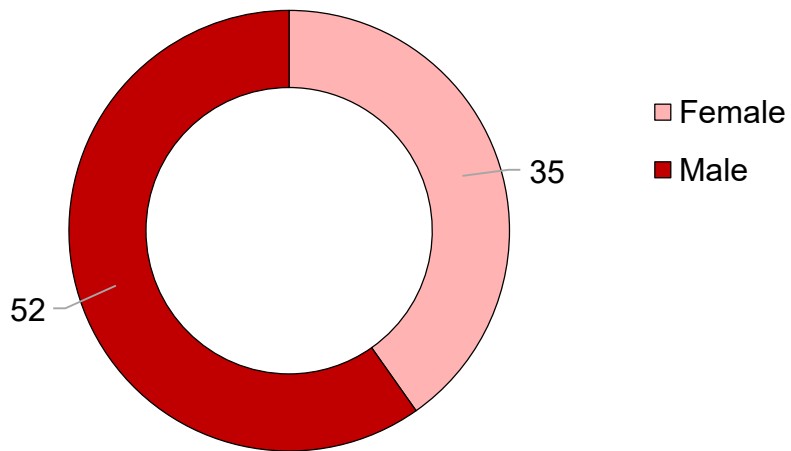


Table 1.1. Acute HAV Cases by Race in West Virginia, 2020

Race	Count	Percent
White	84	97%
Black	2	2%
Unknown	1	1%
Total	87	100%

Table 1.2. Acute HAV Cases by Ethnicity in West Virginia, 2020

Ethnicity	Count	Percent
Not Hispanic or Latino	86	99%
Hispanic or Latino	1	1%
Total	87	100%

Table 1.3. Acute HAV Cases by Age Group in West Virginia, 2020

Age Group (years)	Counts	Percent*
0-19	0	0%
20-29	15	17%
30-39	21	24%
40-49	22	25%
50-59	15	17%
60+	14	16%
Total	87	100%

*Percent does not add to 100 due to rounding.

Table 1.4. Reported Risk Behaviors or Exposures Among Acute HAV Cases in West Virginia, 2020

Risk Factor*	Yes	No	Unknown
Injection Drug Use	43%	47%	10%
Non-Injection Drug Use	30%	54%	16%
Contact of Case**	10%	55%	34%
Unhoused	7%	78%	15%

*Cases may report more than one risk behavior/exposure. **Percent does not add to 100 due to rounding.

Hepatitis B Virus (HBV)

Disease Overview

Like hepatitis A, hepatitis B is a vaccine-preventable liver disease. It is caused by the hepatitis B virus (HBV) and can be transmitted through direct contact with contaminated blood, semen, or other bodily fluids. Transmission of the HBV can occur through sexual contact, sharing needles, syringes, or other drug use equipment, or perinatally from mother to baby at birth. Unlike hepatitis A, hepatitis B can be short-term (acute) or long-term (chronic), affecting some for a few months and others for years. The long-term effects of chronic hepatitis B can include cirrhosis of the liver, liver cancer, and even death. Although there is no cure, those who are chronically infected with the HBV can be treated to reduce the risk of developing more serious liver disease. The best way to prevent HBV infection is to be vaccinated.

HBV in West Virginia

For several years West Virginia reported one of the highest incidence rates of acute hepatitis B in the nation. The rate in West Virginia has declined steadily since 2016, falling to 3.2 cases per 100,000 population in 2020 (Figure 2.1); however, the rate in 2020 could be artificially low due to the increased demand for public health response to the COVID-19 outbreak and fewer case-patients being contacted for interview. Most acute hepatitis B cases were male (63%), reported their race as White (88%), and were between the ages of 30-59 (76%). The most frequently reported risk factors for acute hepatitis B cases in 2020 were injection and non-injection drug use (Table 2.4). A similar demographic profile was found among chronic hepatitis B cases.

Figure 2.1. Acute HBV Incidence Rates, West Virginia, 2016-2020

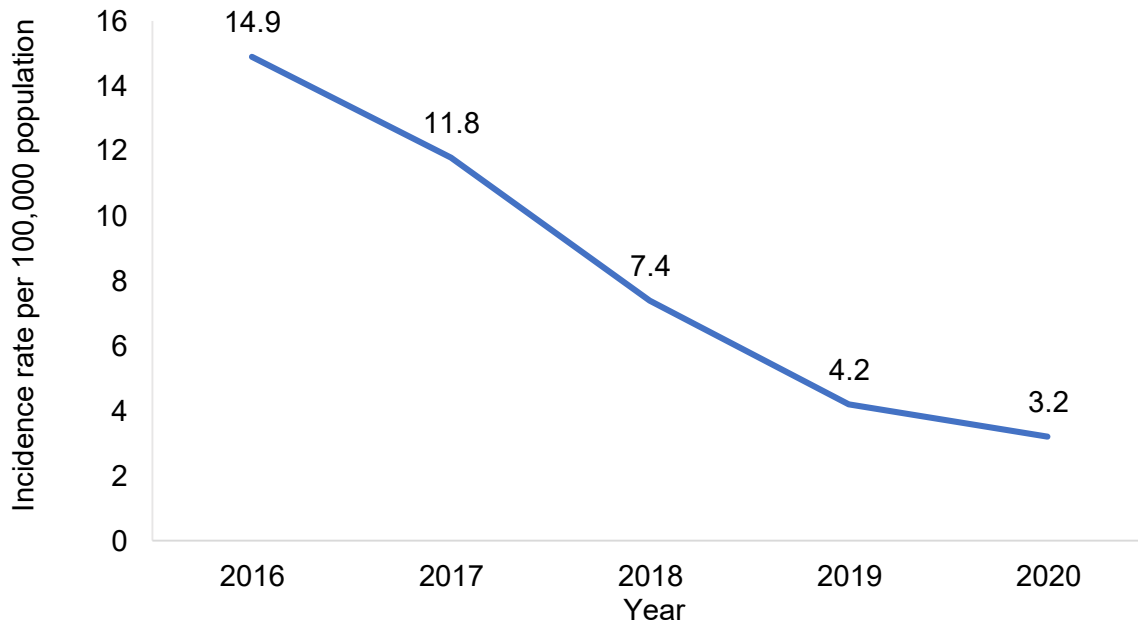


Figure 2.2. Acute HBV Cases by Sex in West Virginia, 2020

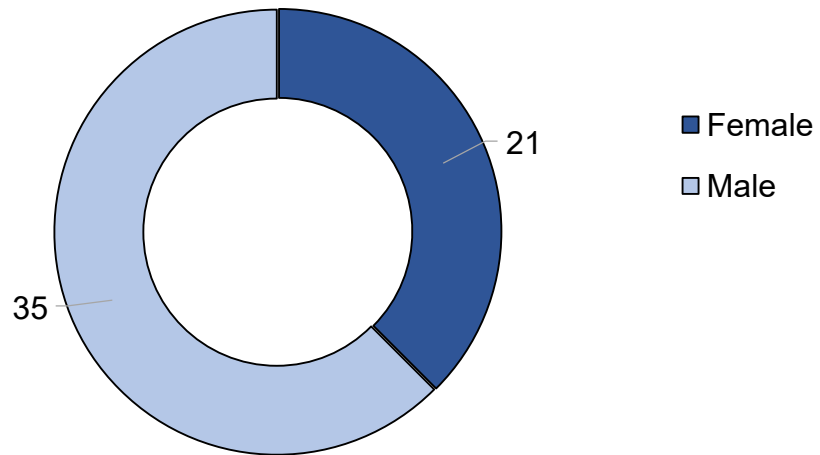


Table 2.1. Acute HBV Cases by Race in West Virginia, 2020

Race	Count	Percent*
White	49	88%
Black	1	2%
Other	1	2%
Unknown	5	9%
Total	56	100%

*Percent does not add to 100 due to rounding.

Table 2.2. Acute HBV Cases by Ethnicity in West Virginia, 2020

Ethnicity	Count	Percent
Not Hispanic or Latino	47	84%
Hispanic or Latino	0	0%
Unknown	9	16%
Total	56	100%

Table 2.3. Acute HBV Cases by Age Group in West Virginia, 2020

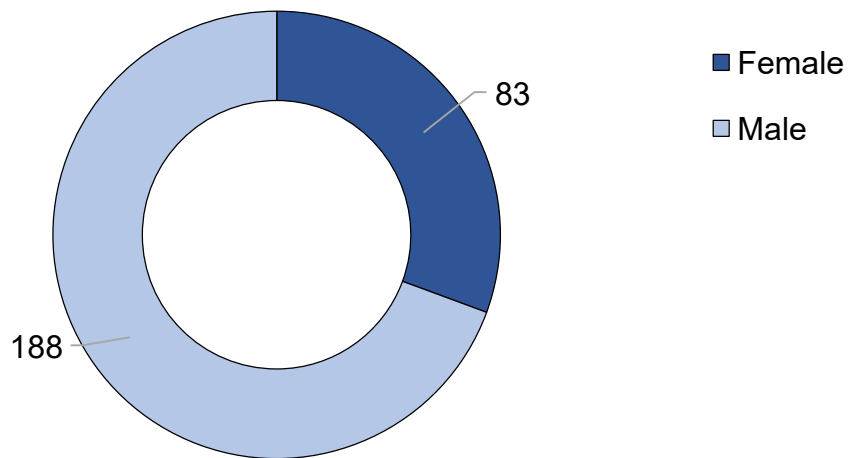
Age Group (years)	Counts	Percent
0-19	1	2%
20-29	5	9%
30-39	12	21%
40-49	18	32%
50-59	13	23%
60+	7	13%
Total	56	100%

Table 2.4. Reported Risk Behaviors or Exposures Among Acute HBV Cases in West Virginia, 2020

Risk Factor*	Yes	No	Unknown
Injection Drug Use	48%	32%	20%
Non-Injection Drug Use	55%	34%	11%
Tattoos	23%	43%	34%
Past STD Treatment**	13%	43%	45%

*Cases may report more than one risk behavior/exposure. **Percent does not add to 100 due to rounding. STD=sexually transmitted disease

Figure 2.3. Chronic HBV Cases by Sex in West Virginia, 2020



Note: Includes 121 confirmed and 150 probable chronic HBV cases.

Table 2.5. Chronic HBV Cases by Race in West Virginia, 2020

Race	Count*	Percent
White	184	68%
Black	18	7%
Other	14	5%
Unknown	55	20%
Total	271	100%

*Includes 121 confirmed and 150 probable cases.

Table 2.6. Chronic HBV Cases by Ethnicity in West Virginia, 2020

Ethnicity	Count*	Percent
Not Hispanic or Latino	159	59%
Hispanic or Latino	3	1%
Unknown	109	40%
Total	271	100%

*Includes 121 confirmed and 150 probable cases.

Table 2.7. Chronic HBV Cases by Age Group in West Virginia, 2020

Age Group (years)	Count*	Percent**
0-19	4	1%
20-29	21	8%
30-39	80	30%
40-49	75	28%
50-59	53	20%
60+	38	14%
Total	271	100%

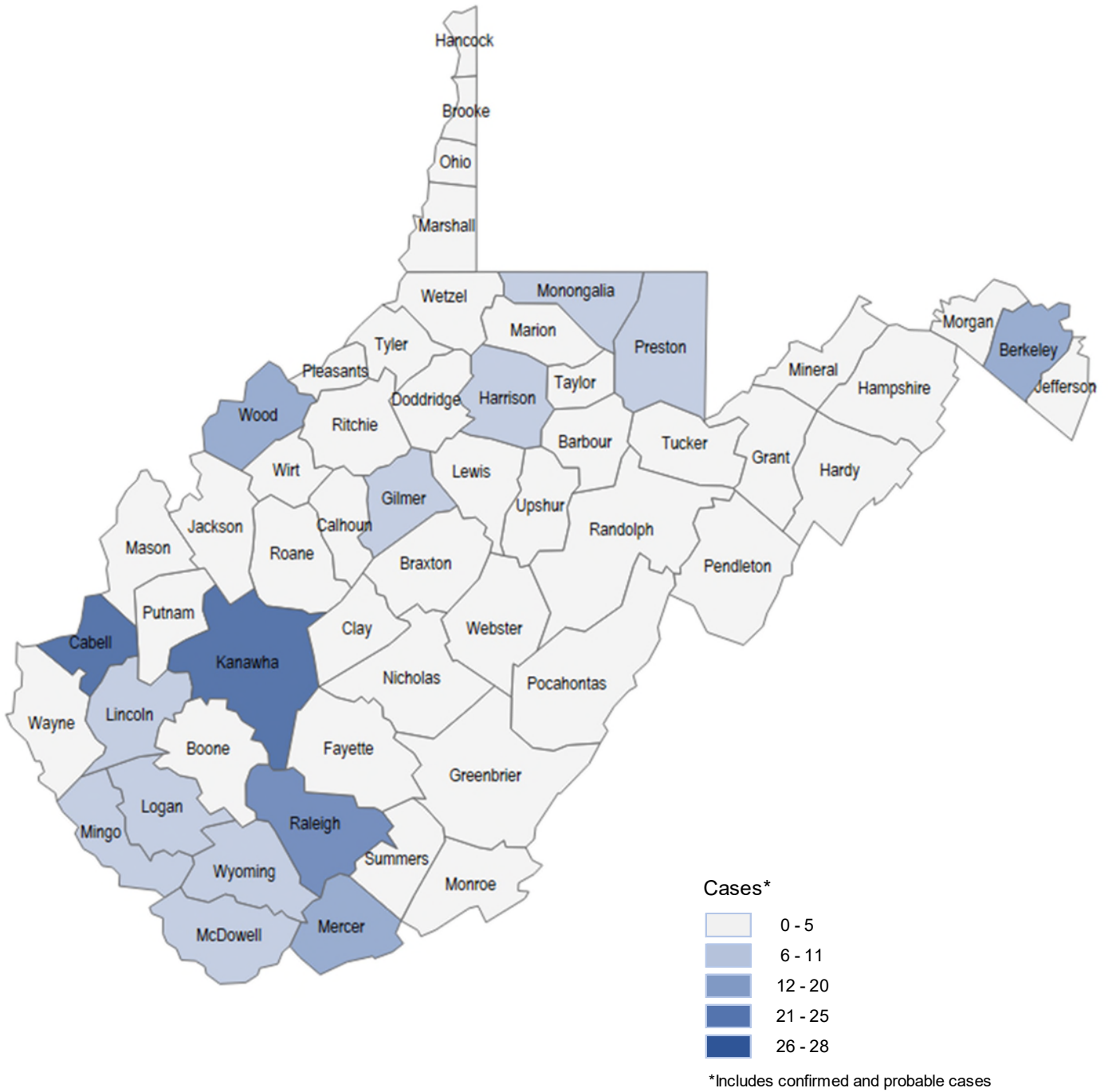
*Includes 121 confirmed and 150 probable cases. **Percent does not add to 100 due to rounding.

Table 2.8. Chronic HBV Case Counts in West Virginia by County, 2020

County	Population*	Count**	County	Population*	Count**
Barbour	15,465	2	Mineral	26,938	0
Berkeley	122,076	12	Mingo	23,568	8
Boone	21,809	5	Monongalia	105,822	11
Braxton	12,447	1	Monroe	12,376	0
Brooke	22,559	1	Morgan	17,063	2
Cabell	94,350	28	Nicholas	24,604	4
Calhoun	6,229	1	Ohio	42,425	4
Clay	8,051	0	Pendleton	6,143	0
Doddridge	7,808	0	Pleasants	7,653	2
Fayette	40,488	5	Pocahontas	7,869	2
Gilmer	7,408	8	Preston	34,216	7
Grant	10,976	1	Putnam	57,440	5
Greenbrier	32,977	2	Raleigh	74,591	21
Hampshire	23,093	0	Randolph	27,932	3
Hancock	29,095	1	Ritchie	8,444	2
Hardy	14,299	1	Roane	14,028	0
Harrison	65,921	10	Summers	11,959	3
Jackson	27,791	2	Taylor	16,705	1
Jefferson	57,701	4	Tucker	6,762	0
Kanawha	180,745	26	Tyler	8,313	2
Lewis	17,033	2	Upshur	23,816	0
Lincoln	20,463	9	Wayne	38,982	5
Logan	32,567	11	Webster	8,378	0
Marion	56,205	3	Wetzel	14,442	4
Marshall	30,591	4	Wirt	5,194	1
Mason	25,453	4	Wood	84,296	16
McDowell	19,111	7	Wyoming	21,382	6
Mercer	59,664	12	West Virginia	1,793,716	271

*Population estimates obtained from the U.S. Census Bureau, year: 2020. **Includes 121 confirmed and 150 probable cases.

Figure 2.4. Chronic HBV Case Counts in West Virginia by County, 2020



Hepatitis C Virus (HCV)

Disease Overview

Hepatitis C is a liver infection caused by the hepatitis C virus (HCV). It is spread through contact with blood from an infected person. For some people, hepatitis C is a short-term illness, but for more than half of people who become infected with the HCV, it becomes a long-term, chronic infection. Chronic hepatitis C can result in serious health issues like cirrhosis and liver cancer. Most new infections with the HCV are the result of sharing needles to inject drugs. There is no HCV vaccine; however, getting tested for the HCV is important, because treatments exist that can cure most people in 8 to 12 weeks. The best way to prevent hepatitis C is by avoiding behaviors that can spread the virus.

HCV in West Virginia

West Virginia has one of the highest incidence rates of acute HCV infection in the nation. The incidence of acute HCV infection steadily increased from 2016 to 2018 and then experienced a decrease in 2019 (Figure 3.1). In 2020, most acute HCV cases in West Virginia were male (64%) and reported their race as White (76%) (Figure 3.2 and Table 3.1). Of the 137 cases reported in 2020, 62% were between the ages of 20-39 years (Table 3.3). Drug use, either injection or non-injection drug use, was the most reported risk factor (Table 3.4).

Cases of chronic HCV are not individually investigated by the local health department. In most cases the demographic information is automatically populated by the reported laboratory report, and risk factor information not obtained. Like acute HCV, most reported chronic cases of HCV are among males (Figure 3.2.). The 30-39 years old age group was the most frequently reported age group of chronic HCV infection (Table 3.7).

Figure 3.1. Acute HCV Incidence Rates, West Virginia, 2016-2020

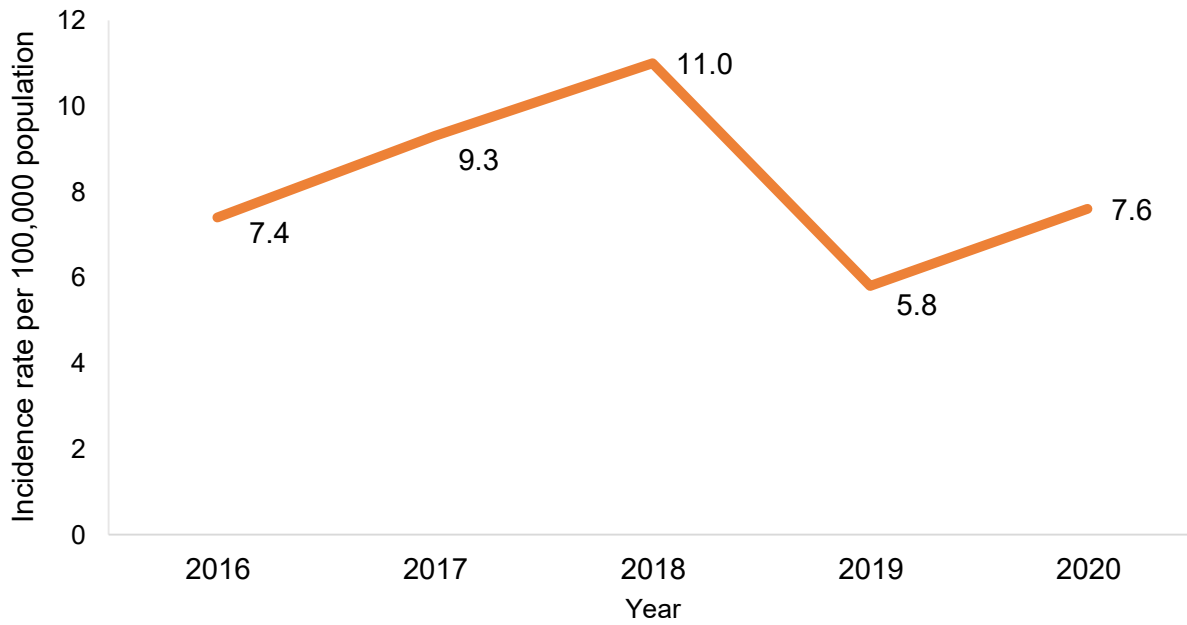
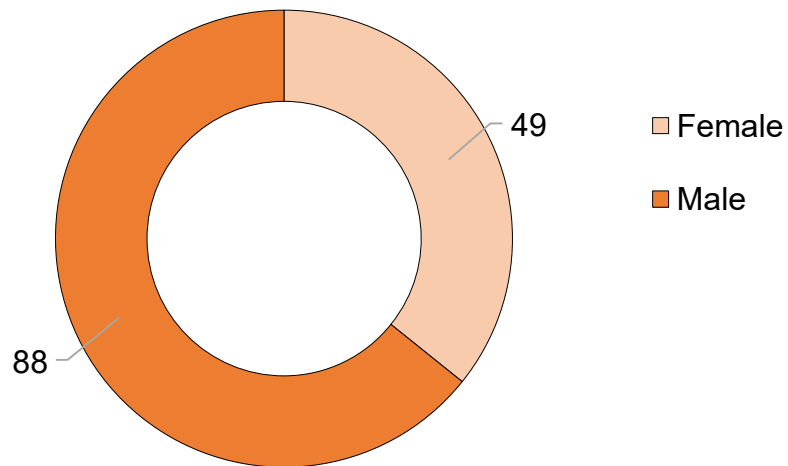


Figure 3.2. Acute HCV Cases by Sex in West Virginia, 2020



Note: Includes 44 confirmed and 93 probable cases.

Table 3.1. Acute HCV Cases by Race in West Virginia, 2020

Race	Count*	Percent
White	104	76%
Black	4	3%
Other	6	4%
Unknown	23	17%
Total	137	100%

*Includes 44 confirmed and 93 probable cases.

Table 3.2. Acute HCV Cases by Ethnicity in West Virginia, 2020

Ethnicity	Count*	Percent
Not Hispanic or Latino	88	64%
Hispanic or Latino	1	1%
Unknown	48	35%
Total	137	100%

*Includes 44 confirmed and 93 probable cases.

Table 3.3. Acute HCV Cases by Age Group in West Virginia, 2020

Age Group (years)	Count*	Percent**
0-19	4	3%
20-29	46	34%
30-39	39	28%
40-49	32	23%
50-59	10	7%
60+	6	4%
Total	137	100%

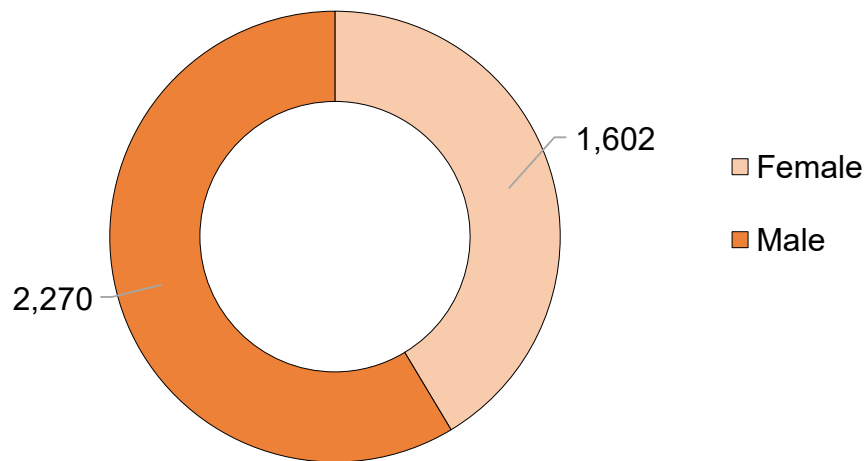
*Includes 44 confirmed and 93 probable cases. **Percent does not add to 100 due to rounding.

Table 3.4. Reported Risk Behaviors or Exposures Among Acute HCV Cases in West Virginia, 2020

Risk Factor*	Yes	No	Unknown
Injection Drug Use**	34%	15%	50%
Non-Injection Drug Use	29%	16%	55%
Tattoos	13%	26%	61%
Contact of Case	10%	19%	71%

*Cases may report more than one risk behavior/exposure. **Percent does not add to 100 due to rounding.

Figure 3.3. Chronic HCV Cases by Sex in West Virginia, 2020



Note: Includes 2,145 confirmed and 1,727 probable cases.

Table 3.5. Chronic HCV Cases by Race in West Virginia, 2020

Race	Count*	Percent**
White	1,632	42%
Black	78	2%
Other	212	5%
Unknown	1,950	50%
Total	3,872	100%

*Includes 2,145 confirmed and 1,727 probable cases. **Percent does not add to 100 due to rounding.

Table 3.6. Chronic HCV Cases by Ethnicity in West Virginia, 2020

Ethnicity	Count*	Percent
Not Hispanic or Latino	1,239	32%
Hispanic or Latino	6	<1%
Unknown	2,627	68%
Total	3,872	100%

*Includes 2,145 confirmed and 1,727 probable cases.

Table 3.7. Chronic HCV Cases by Age Group in West Virginia, 2020

Age Group (years)	Count*	Percent**
0-19	31	1%
20-29	858	22%
30-39	1,273	33%
40-49	770	20%
50-59	489	13%
60+	451	12%
Total	3,872	100%

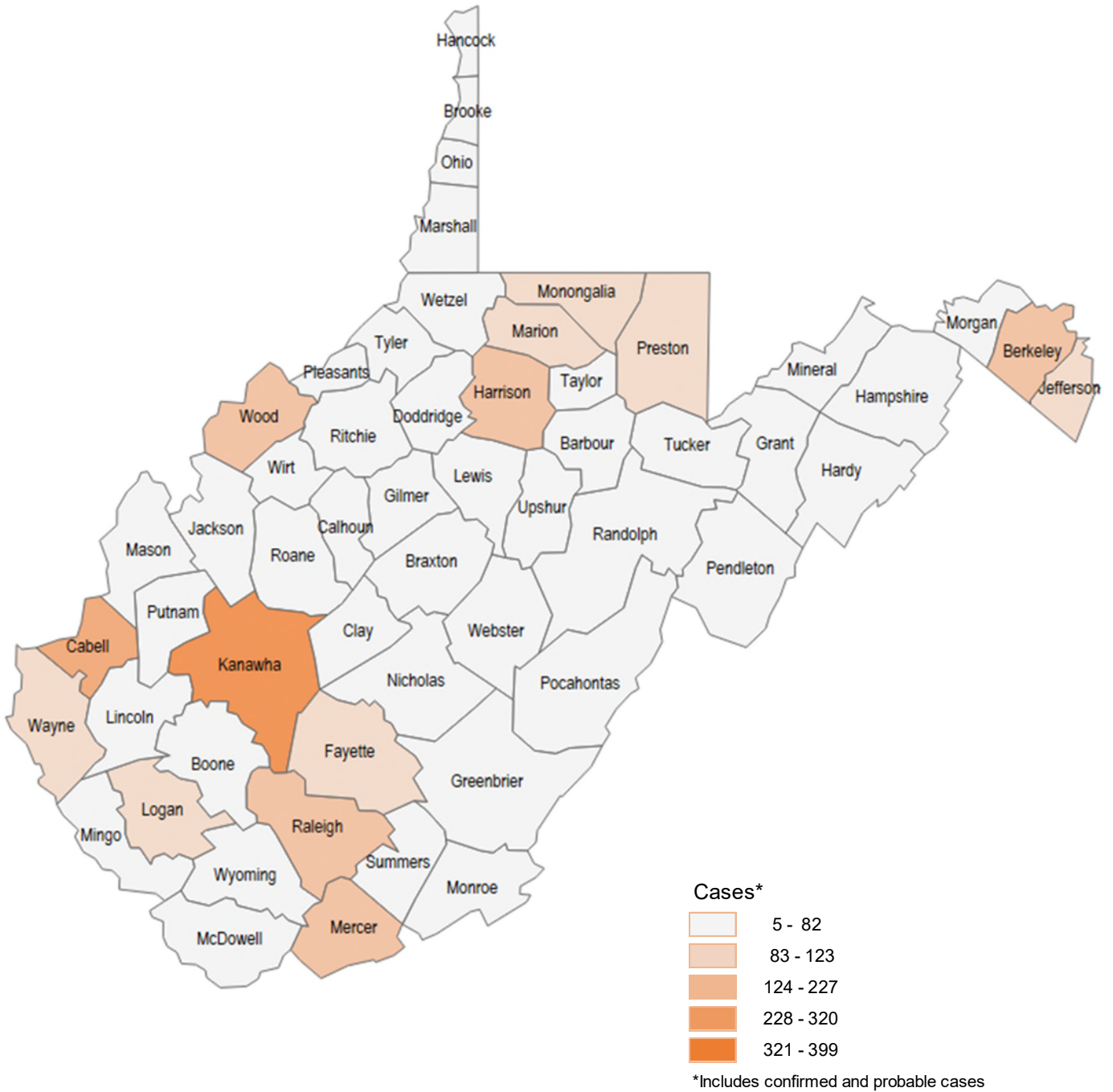
*Includes 2,145 confirmed and 1,727 probable cases. **Percent does not add to 100 due to rounding.

Table 3.8. Chronic HCV Case Counts in West Virginia by County, 2020

County	Population*	Count**	County	Population*	Count**
Barbour	15,465	26	Mineral	26,938	27
Berkeley	122,076	227	Mingo	23,568	68
Boone	21,809	59	Monongalia	105,822	123
Braxton	12,447	43	Monroe	12,376	16
Brooke	22,559	17	Morgan	17,063	21
Cabell	94,350	320	Nicholas	24,604	38
Calhoun	6,229	8	Ohio	42,425	80
Clay	8,051	22	Pendleton	6,143	10
Doddridge	7,808	5	Pleasants	7,653	9
Fayette	40,488	105	Pocahontas	7,869	15
Gilmer	7,408	11	Preston	34,216	112
Grant	10,976	17	Putnam	57,440	52
Greenbrier	32,977	80	Raleigh	74,591	196
Hampshire	23,093	52	Randolph	27,932	67
Hancock	29,095	71	Ritchie	8,444	51
Hardy	14,299	19	Roane	14,028	14
Harrison	65,921	172	Summers	11,959	29
Jackson	27,791	43	Taylor	16,705	33
Jefferson	57,701	89	Tucker	6,762	10
Kanawha	180,745	399	Tyler	8,313	5
Lewis	17,033	35	Upshur	23,816	25
Lincoln	20,463	33	Wayne	38,982	102
Logan	32,567	113	Webster	8,378	17
Marion	56,205	89	Wetzel	14,442	33
Marshall	30,591	82	Wirt	5,194	5
Mason	25,453	63	Wood	84,296	181
McDowell	19,111	76	Wyoming	21,382	59
Mercer	59,664	198	West Virginia	1,793,716	3,872

*Population estimates obtained from the U.S. Census Bureau, year: 2020. **Includes 2,145 confirmed and 1,727 probable cases.

Figure 3.4. Chronic HCV Case Counts in West Virginia by County, 2020



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Surveillance Case Definitions

Acute Hepatitis A Virus Case Definition

Clinical Criteria

An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, abdominal pain, or dark urine)

AND

a) jaundice or elevated total bilirubin levels ≥ 3.0 mg/dL, OR b) elevated serum alanine aminotransferase (ALT) levels >200 IU/L,

AND

c) the absence of a more likely diagnosis

Laboratory Criteria For Diagnosis

Confirmatory laboratory evidence:

- Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive,

OR

- Nucleic acid amplification test (NAAT; such as Polymerase Chain Reaction [PCR] or genotyping) for hepatitis A virus RNA positive

Epidemiologic Linkage

Contact (e.g., household or sexual) with a laboratory-confirmed hepatitis A case 15-50 days prior to onset of symptoms.

Criteria to Distinguish a New Case from an Existing Case

Hepatitis A is usually self-limiting and does not result in chronic infection. However, up to 10% of persons with hepatitis A may experience a relapse during the 6 months after acute illnesses. Cases of relapsing hepatitis A should not be enumerated as new cases. In addition, a case should not be counted as a hepatitis A case if there is an alternate, more likely diagnosis.

Case Classification

Confirmed

- A case that meets the clinical criteria and is IgM anti-HAV positive[§], **OR**
- A case that has hepatitis A virus RNA detected by NAAT (such as PCR or genotyping), **OR**
- A case that meets the clinical criteria and occurs in a person who had contact (e.g., household or sexual) with a laboratory-confirmed hepatitis A case 15-50 days prior to onset of symptoms.

§ And not otherwise ruled out by IgM anti-HAV or NAAT for hepatitis A virus testing performed in a public health laboratory.

Acute Hepatitis B Virus Case Definition

Clinical Description

An acute illness with a discrete onset of any sign or symptom* consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), and either a) jaundice, or b) elevated serum alanine aminotransferase (ALT) levels >100 IU/L.

*A documented negative hepatitis B surface antigen (HBsAg) laboratory test result within 6 months prior to a positive test (either HBsAg, hepatitis B "e" antigen (HBeAg), or hepatitis B virus nucleic acid testing (HBV NAT) including genotype) result does not require an acute clinical presentation to meet the surveillance case definition.

Laboratory Criteria For Diagnosis

- HBsAg positive, **AND**
- Immunoglobulin M (IgM) antibody to hepatitis B core antigen (IgM anti-HBc) positive (if done)

Case Classification

Confirmed

- A case that meets the clinical case definition, is laboratory confirmed, and is not known to have chronic hepatitis B.

Chronic Hepatitis B Virus Case Definition

Clinical Description

No symptoms are required. Persons with chronic hepatitis B virus (HBV) infection may have no evidence of liver disease or may have a spectrum of disease ranging from chronic hepatitis to cirrhosis or liver cancer.

Laboratory Criteria For Diagnosis:

Immunoglobulin M (IgM) antibodies to hepatitis B core antigen (IgM anti-HBc) negative **AND** a positive result on one of the following tests: hepatitis B surface antigen (HBsAg), hepatitis B e antigen (HBeAg), or nucleic acid test for hepatitis B virus DNA (including qualitative, quantitative and genotype testing), **OR**

HBsAg positive or nucleic acid test for HBV DNA positive (including qualitative, quantitative and genotype testing) or HBeAg positive two times at least 6 months apart (Any combination of these tests performed 6 months apart is acceptable)

Case Classification

Probable

A person with a single HBsAg positive or HBV DNA positive (including qualitative, quantitative and genotype testing) or HBeAg positive lab result and does not meet the case definition for acute hepatitis B.

Confirmed

A person who meets either of the above laboratory criteria for diagnosis.

Acute Hepatitis C Virus Case Definition

Clinical Criteria:

All hepatitis C virus cases in each classification category should be > 36 months of age, unless known to have been exposed non-perinatally.

One or more of the following:

- Jaundice, **OR**
- Peak elevated total bilirubin levels ≥ 3.0 mg/dL, **OR**
- Peak elevated serum alanine aminotransferase (ALT) levels >200 IU/L,

AND

The absence of a more likely diagnosis (which may include evidence of acute liver disease due to other causes or advanced liver disease due to pre-existing chronic Hepatitis C virus (HCV) infection or other causes, such as alcohol exposure, other viral hepatitis, hemochromatosis, etc.)

Laboratory Criteria

Confirmatory laboratory evidence:

- Positive hepatitis C virus detection test: Nucleic acid test (NAT) for HCV RNA positive (including qualitative, quantitative, or genotype testing), **OR**
- A positive test indicating presence of hepatitis C viral antigen(s) (HCV antigen)

Presumptive laboratory evidence:

- A positive test for antibodies to hepatitis C virus (anti-HCV)

Epidemiologic Linkage

No epidemiologic linkage is required for case classification.

Criteria to Distinguish a New Case from an Existing Case

A new acute case is an incident case that is over the age of 36 months and has not previously been reported meeting case criteria for chronic hepatitis C or for whom there is laboratory evidence of re-infection. Cases under the age of 36 months should be classified under the Perinatal HCV Position Statement (17-ID-08) unless the exposure mode is not perinatal (e.g., healthcare acquired).

All jurisdictions are encouraged to track negative HCV viral detection tests to document both spontaneous clearance of infection or sustained viral response to HCV treatment. Cases that have evidence of having cleared the infection at time of initial report or are considered false positive should not be reported to CDC.

Acute cases determined via anti-HCV test conversion do not need to have a positive HCV viral detection test reported to be considered confirmed acute cases.

A new probable acute case may be reclassified as confirmed acute if a positive HCV viral detection test is reported in the same reporting year (e.g. prior to CDC closing reporting for the calendar year).

Collection of risk history data is recommended for probable and confirmed acute HCV cases. Timing of risk history data to collect ranges from 2 weeks to 12 months prior to symptom onset or diagnosis. The time frame to employ depends on the method of classification (e.g., if a case meets clinical criteria and has a positive HCV detection test, a risk history time frame of 2 weeks to 6 months prior to onset should be used; for a case classified via anti-HCV test conversion or HCV RNA test conversion, 2 weeks to 12 months prior to onset should be considered).

If evidence indicating resolution of infection is received after a confirmed acute case has been reported to CDC, the case report does not need to be modified as it was a confirmed case at the time of initial report. However, negative HCV viral detection test results received on confirmed acute case, subsequent to an initial positive result, should be appended to case reports, as feasible, and considered for the purpose of data analysis by each jurisdiction.

For probable acute cases, the presence of a negative HCV viral detection test result, in the absence of criteria that would allow for confirmation, indicates that a case should not be classified as probable acute and should not be reported to CDC.

A confirmed acute case may be classified as a confirmed chronic case if a positive HCV viral detection test is reported one year or longer after acute case onset. A confirmed acute case may not be reported as a probable chronic case (i.e., HCV antibody positive, but with an unknown HCV viral detection test). For purposes of incidence and prevalence calculations, confirmed acute and chronic HCV cases should be counted.

Case Classification

Probable

- A case that meets clinical criteria and has presumptive laboratory evidence, **AND**
- Does not have a hepatitis C virus detection test reported, **AND**
- Has no documentation of anti-HCV or HCV RNA test conversion within 12 months,

Confirmed

- A case that meets clinical criteria and has confirmatory laboratory evidence, **OR**
- A documented negative HCV antibody followed within 12 months by a positive HCV antibody test (anti-HCV test conversion) in the absence of a more likely diagnosis, **OR**
- A documented negative HCV antibody **OR** negative hepatitis C virus detection test (in someone without a prior diagnosis of HCV infection) followed within 12 months by a positive hepatitis C virus detection test (HCV RNA test conversion) in the absence of a more likely diagnosis.

Chronic Hepatitis C Virus Case Definition

Clinical Criteria

All hepatitis C virus cases in each classification category should be > 36 months of age, unless known to have been exposed non-perinatally.

One or more of the following:

- Jaundice, **OR**
- Peak elevated total bilirubin levels ≥ 3.0 mg/dL, **OR**
- Peak elevated serum alanine aminotransferase (ALT) levels >200 IU/L,

AND

The absence of a more likely diagnosis (which may include evidence of acute liver disease due to other causes or advanced liver disease due to pre-existing chronic Hepatitis C virus (HCV) infection or other causes, such as alcohol exposure, other viral hepatitis, hemochromatosis, etc.)

Laboratory Criteria

Confirmatory laboratory evidence:

- Positive hepatitis C virus detection test: Nucleic acid test (NAT) for HCV RNA positive (including qualitative, quantitative, or genotype testing), **OR**
- A positive test indicating presence of hepatitis C viral antigen(s) (HCV antigen)

Presumptive laboratory evidence:

- A positive test for antibodies to hepatitis C virus (anti-HCV)

Epidemiologic Linkage

No epidemiologic linkage is required for case classification.

Criteria to Distinguish a New Case from an Existing Case

All jurisdictions are encouraged to track negative HCV viral detection tests to document both spontaneous clearance of infection or sustained viral response to HCV treatment. Cases that have evidence of having cleared the infection at time of initial report or are considered false positive should not be reported to CDC.

If evidence indicating resolution of infection is received after a confirmed chronic case has been reported to CDC, the case report does not need to be modified as it was a confirmed case at the time of initial report. However, negative HCV viral detection test results received on confirmed chronic cases, subsequent to an initial positive result, should be appended to case reports, as feasible, and considered for the purpose of data analysis by each jurisdiction.

Evidence for re-infection may include a case of confirmed chronic HCV infection that has at least two sequential negative HCV viral detection tests reported, indicative of treatment initiation and sustained virologic response, followed by a positive HCV viral detection test. Under current treatment recommendations, those two negative tests should be at least three months apart, however, the timing may change as standard of care for HCV treatment evolves. Other evidence of reinfection should be considered, including a report of a new genotype on a case that has previously cleared a different genotype. Jurisdictions are encouraged to ensure that cases of HCV treatment failure are not classified as new cases of HCV infection to the extent that it can be determined. Jurisdictions tracking re-infection should also consider collecting data on prior treatment completion (when relevant and possible to document), treatment failure, change in reported genotype if that applies, and the known time frame for reinfection.

For probable chronic cases, the presence of a negative HCV viral detection test result, in the absence of criteria that would allow for confirmation, indicates that a case should not be classified as probable chronic and should not be reported to CDC.

A new chronic case is a newly reported case that does not have evidence of being an acute case of HCV infection. A confirmed acute case may be classified as a confirmed chronic case if a positive HCV viral detection test is reported one year or longer after acute case onset. A confirmed acute case may not be reported as a probable chronic case (i.e., HCV antibody positive, but with an unknown HCV viral detection test). For purposes of incidence and prevalence calculations, confirmed chronic HCV cases should be counted.

Jurisdictions are also encouraged to track and classify possible re-infection cases that may have been previously submitted to CDC as a confirmed or probable chronic HCV infection case. Jurisdictions tracking re-infection should also consider collecting data on prior treatment completion (when relevant and possible to document), treatment failure, change in reported genotype if that applies, and the known time frame for reinfection.

Case Classification

Probable

- A case that does not meet OR has no report of clinical criteria, **AND**
- Has presumptive laboratory evidence, **AND**
- Has no documentation of anti-HCV or RNA test conversion within 12 months, **AND**
- Does not have an HCV RNA detection test reported.

Confirmed

- A case that does not meet OR has no report of clinical criteria, **AND**
- Has confirmatory laboratory evidence, **AND**
- Has no documentation of anti-HCV or HCV RNA test conversion within 12 months.