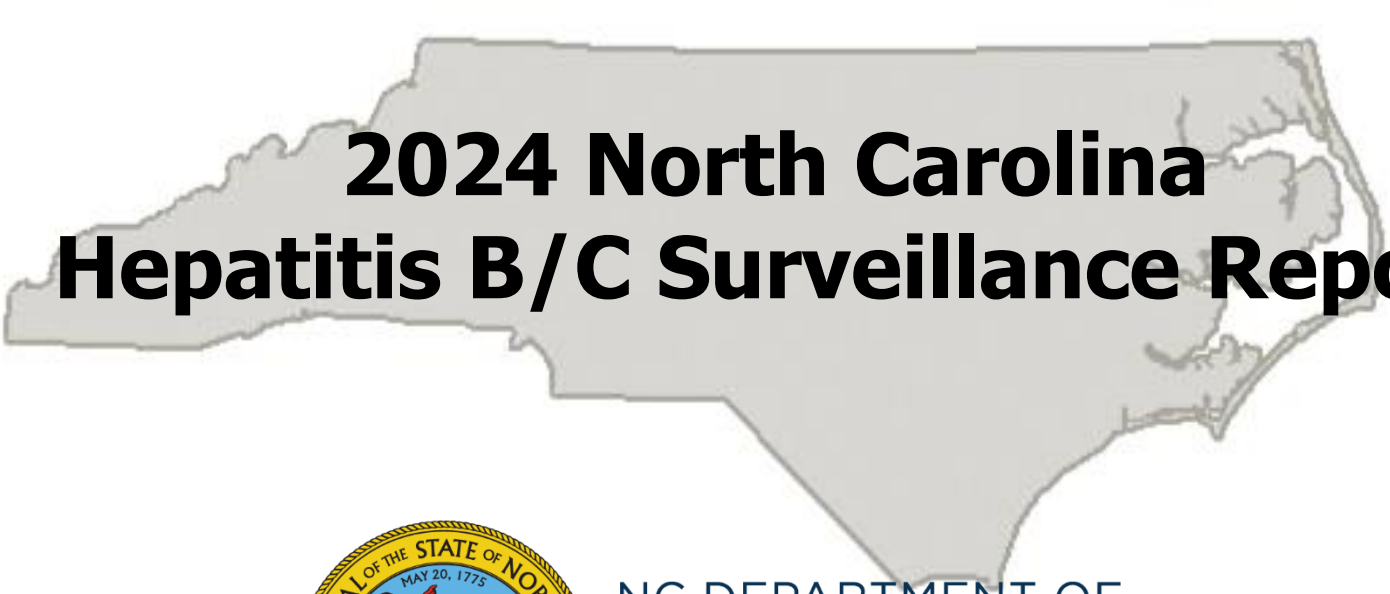
2024 North Carolina Hepatitis B/C Surveillance Report



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Division of Public Health

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https://epi.publichealth.nc.gov/cd/stds/figures.html

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Special Note:

The portable document format or PDF version of this document contains hyperlinks to related topics in other sections of the document. To navigate to the related topic, click the hyperlink in the table of contents.

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About the Content of This Report

This document, the *2024 North Carolina Hepatitis B/C Surveillance Report*, includes summary tables of surveillance reports and other information for acute hepatitis B, chronic hepatitis B, acute hepatitis C, and chronic hepatitis C. In some instances, total numbers of reports may not agree between separate cross-tabulations due to missing values for some variables.

Detailed data tables of acute hepatitis B, chronic hepatitis B, acute hepatitis C, and chronic hepatitis C by county of diagnosis/residence and demographics can be found in the *2024 North Carolina Hepatitis B/C Surveillance Data Tables* excel file. This excel file can be downloaded from the Annual Reports page (https://epi.dph.ncdhhs.gov/cd/stds/annualrpts.html).

Rates are presented by county, age group, gender, race, and ethnicity for each disease and are expressed as cases per 100,000 population. The small number of cases with a reported race of "other" were included in the unknown race category. Rates are also presented for counties across the state and are expressed as cases per 100,000 population. Rates are not available for unknown categories (including age, gender, race, and ethnicity). Beginning with the 2021 Annual Report, rate denominators were estimated using the Census demographic population estimates for 2021 from the Census Bureau's Population Estimates Program (PEP). In this report, 2023 population estimates were used to calculate rates for both 2023 and 2024. More information about Census Population and Housing Estimates is available on the Census website (https://www.census.gov/programs-surveys/popest/data/special-tab/content.html).

Rates that are based on a small number of cases (fewer than 10) should be viewed with caution and are considered unreliable because these rates have large standard errors and can vary widely with small changes in case numbers. Data are suppressed in this document for table cells with a population denominator less than 500, according to the North Carolina Department of Health and Human Services, Division of Public Health Communicable Disease Branch data release guidelines.

**Please note that 2020 data should be treated with caution due to the impact of the COVID-19 pandemic on accessing testing, treatment, and surveillance activities in North Carolina.*

In 2024, the nationally standardized surveillance case definition for acute and chronic hepatitis B was updated to better align the acute classifications with other viral hepatitis case definitions. Additionally, the changes aimed to increase the sensitivity and specificity of acute hepatitis B case classification. Among the most notable of the hepatitis B case definition changes were: (1) increases in the cutoff of liver enzyme levels required for acute hepatitis B classification (2) removing the requirement for clinical signs/symptoms of acute hepatitis, and (3) adding criteria for excluding persons with previous history of hepatitis B or evidence of hepatitis B reactivation. As a result of these case definition changes, we expect to see increases in the number of acute hepatitis B cases reported.

For additional information regarding the 2024 hepatitis B case definition changes, please refer to Update to Public Health Reporting and National Notification for Acute and Chronic Hepatitis B Infections.

Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of September 1, 2025) unless otherwise specified

Hepatitis B and C in North Carolina

Hepatitis B and C Reporting in North Carolina

In North Carolina, laboratory results and symptoms diagnostic of acute, chronic, and perinatal hepatitis B and acute hepatitis C are reportable by law to the North Carolina Department of Health and Human Services (NC DHHS). Prior to 2024, acute classification for hepatitis B and C was primarily based on provider and LHD reporting. Beginning in 2024, the updated hepatitis B case definition now also allows acute classification based on laboratory criteria, and as a result we expect 2024 reporting to be more accurate. Most of North Carolina's disease reporting, including chronic hepatitis B and C, is performed via electronic reporting from laboratories. Therefore, acute hepatitis B and C are very likely to be underreported; an additional contributor to underreporting is misclassification of asymptomatic acute cases as chronic.

Hepatitis B and C in North Carolina are required to be reported to the local health department following the schedule below*:

Within 24 Hours	Within 7 Days
Acute Hepatitis B	Chronic Hepatitis B
Perinatal Hepatitis B	Acute Hepatitis C

*Note reporting of chronic hepatitis C is required for laboratories reporting electronically, but not for providers not participating in electronic reporting in North Carolina; it is primarily reported in North Carolina by electronic lab reporting (ELR). Therefore, chronic hepatitis C does not have a provider timeframe for reporting to North Carolina Division of Public Health

Hepatitis B

Hepatitis B is a vaccine-preventable, mild-to-severe liver infection, caused by the hepatitis B virus (HBV), which can advance from acute to chronic.

Most acute infections range from asymptomatic to mild disease; some acute HBV infections will resolve on their own, while others will develop into chronic infection.

HBV can survive outside the body for at least 7 days and still cause infection.

Treatment is generally not required for acute HBV, as 90%-95% of people > 5 years of age with acute HBV will spontaneously clear the infection. The risk of developing a life-long chronic infection varies with age; chronic HBV occurs in approximately 90% of infants infected at birth, 20-50% of children 1 to 5 years old, and 1-10% of persons > 5 years of age.
There is no cure for HBV at this time.

HBV is a leading cause of liver cancer.

HBV is vaccine preventable. It is recommended that all children from birth to 18 years of age receive the vaccine, and all other adults receive it as soon as possible.

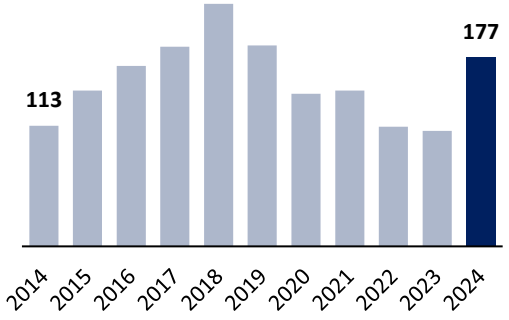
Vertical transmission can also occur between an infected mother and her infant (perinatal HBV).

All 86 local health departments in NC are able to offer risk-based HBV screening to under and uninsured individuals through the NC State Laboratory of Public Health (NC SLPH).

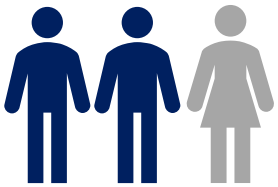
Acute Hepatitis B Disease Trends

2024 Summary		
Number of cases		177
Rate (per 100,000 population)		1.6
Percent change from 2023		+63.9%
Mean age (in years)		48
Gender	**Number (%)**	**Rate**
Male	122 (68.9)	2.3
Female	55 (31.1)	1.0
Unknown	0 (0.0)	-
Race	**Number (%)**	**Rate**
American Indian/Alaska Native	1 (0.6)	0.6
Asian/Pacific Islander	6 (3.4)	1.4
Black/African American	34 (19.2)	1.4
White	112 (63.3)	1.5
Multiple Races	6 (3.4)	2.1
Unknown	18 (10.2)	-
Ethnicity	**Number (%)**	**Rate**
Hispanic/Latine	6 (3.4)	0.5
Non-Hispanic/Non-Latine	128 (72.3)	1.3
Unknown	43 (24.3)	-

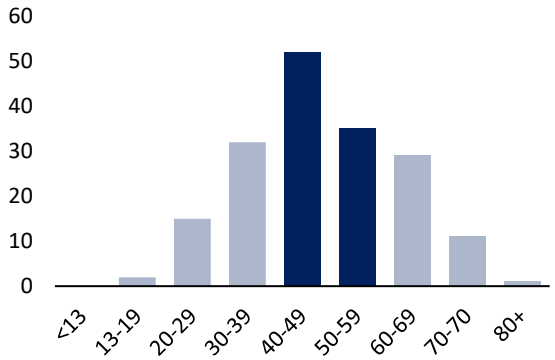
Reports of acute HBV cases **peaked** in 2018 and then declined. Acute cases **increased** in 2024; this is likely due in part to the 2024 case definition change (see Appendix A).



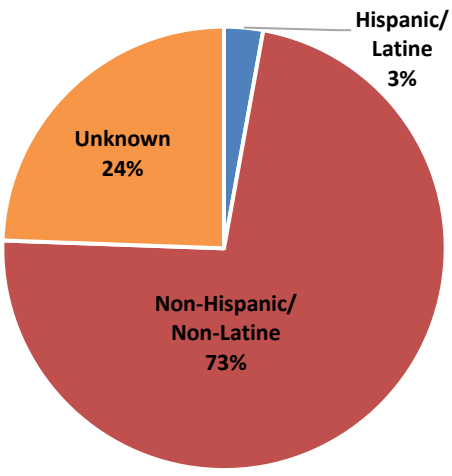
More than two-thirds (69%) of acute HBV cases were among **men** in 2024.



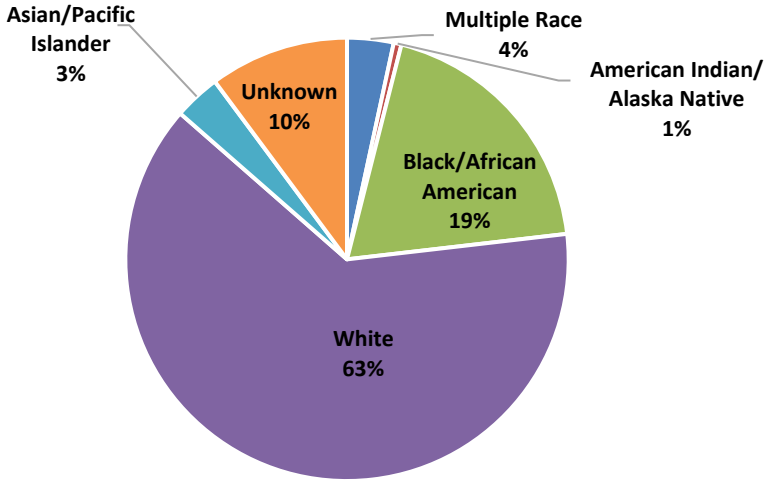
Nearly half (49%) of acute HBV cases were among persons aged **40-59 years**.



The majority of acute HBV cases were among non-Hispanic/non-Latine people. Hispanic/Latine people accounted for 3% cases in 2024.



The **majority** of acute HBV cases were among **White persons** (63%), followed by Black/African American persons (19%).

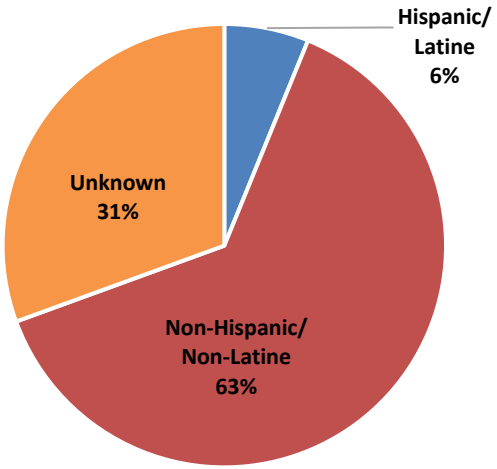


Chronic Hepatitis B Disease Trends

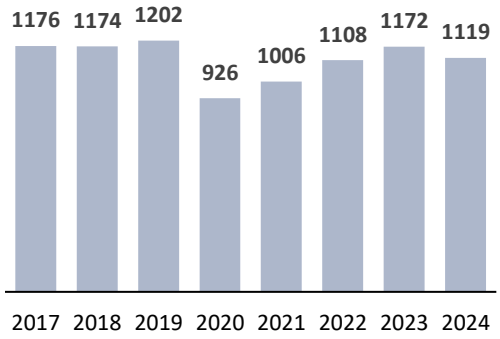
2024 Summary		
Number of cases		1,119
Rate (per 100,000 population)		10.3
Percent change from 2023		-4.5%
Mean age (in years)		48
Gender	**Number (%)**	**Rate**
Male	693 (61.9)	13.1
Female	423 (37.8)	7.6
Unknown	3 (0.3)	-
Race	**Number (%)**	**Rate**
American Indian/Alaska Native	8 (0.7)	4.6
Asian/Pacific Islander	208 (18.6)	50.0
Black/African American	326 (29.1)	13.6
White	314 (28.1)	4.2
Multiple Races	45 (4.0)	15.5
Unknown/Unspecified	218 (19.5)	-
Ethnicity	**Number (%)**	**Rate**
Hispanic/Latine	69 (6.2)	5.6
Non-Hispanic/Non-Latine	708 (63.3)	7.4
Unknown/Unspecified	342 (30.6)	-

6 out of 10 (62%) chronic HBV cases reported in 2024 were among **men**.

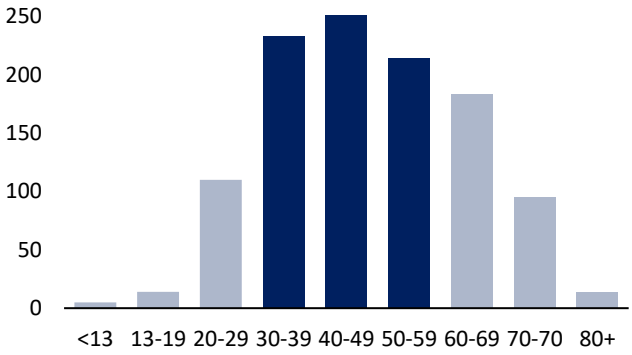
Reported chronic HBV cases were **predominantly non-Hispanic/non-Latine persons**; however, ethnicity data is **missing** for nearly one-third of cases in 2024.



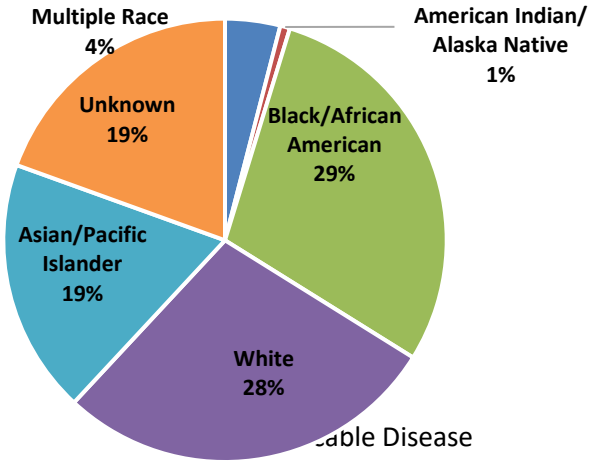
Reported chronic HBV cases slightly decreased in 2024. The number of cases reported dropped from 2020-2021, likely due to decreased testing during the COVID-19 pandemic. Case counts have **since returned to pre-pandemic levels.**



More than half (62%) of chronic cases reported in 2024 were among persons aged **30-59 years**.



While only 6 new acute HBV cases were reported among **Asian/Pacific Islander persons** in 2024, this group accounted for nearly **one-fifth of chronic cases (19%)**. Ethnicity data is missing for 19% of cases in 2024.



Hepatitis C

Hepatitis C is a mild-to-severe liver infection, caused by the hepatitis C virus (HCV), which can advance from acute to chronic. There is no vaccine for HCV, but over 90% of HCV-infected people can be cured of HCV with direct acting antiviral therapies.

Most acute infections range from asymptomatic to mild disease; some acute HCV infections will resolve on their own, while 75-85% will develop into chronic infection.

The most common way HCV is transmitted in the US is through injection drug use (IDU).

Direct acting antiviral therapies to treat chronic HCV are associated with high cure rates (>95%), low likelihood of side effects, and lower risk of drug-drug interactions.

HCV is a leading cause of liver transplants and liver cancer.

There is no vaccine for HCV, but people infected with HCV should be vaccinated against hepatitis A and B.

Vertical transmission can also occur between an infected mother and her infant (perinatal HCV).

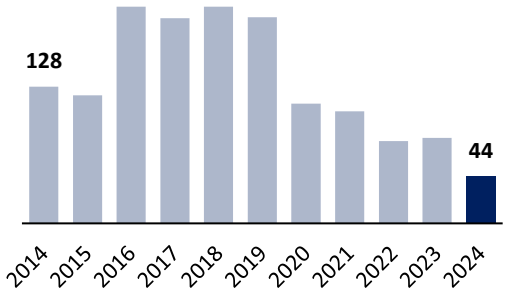
The CDC recommends a one-time HCV test for all adults regardless of risk, except in settings where the prevalence of HV is less than 0.1%, and for all pregnant women during every pregnancy.

Acute Hepatitis C Disease Trends

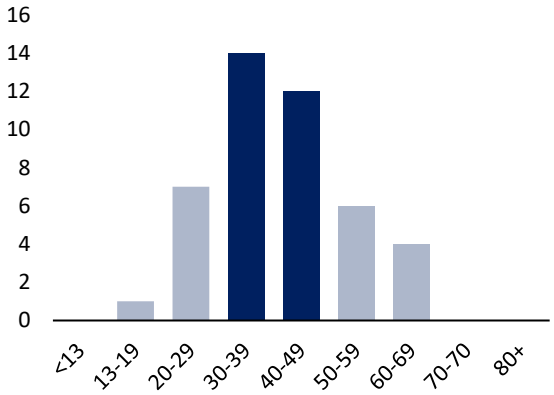
2024 Summary		
Number of cases		44
Rate (per 100,000 population)		0.4
Percent change from 2023		-45.0%
Mean age (in years)		40
Gender	**Number (%)**	**Rate**
Male	27 (61.4)	0.5
Female	17 (38.6)	0.3
Unknown	0 (0.0%)	-
Race	**Number (%)**	**Rate**
American Indian/Alaska Native	0 (0.0)	0.0
Asian/Pacific Islander	0 (0.0)	0.0
Black/African American	3 (6.8)	0.1
White	40 (90.9)	0.5
Multiple Races	0 (0.0)	0.0
Unknown	1 (2.3)	-
Ethnicity	**Number (%)**	**Rate**
Hispanic/Latine	2 (4.5)	0.2
Non-Hispanic/Non-Latine	41 (93.2)	0.4
Unknown/Unspecified	1 (2.3)	-

More than 6 out of 10 acute HCV cases reported in 2024 were among **men** (61%).

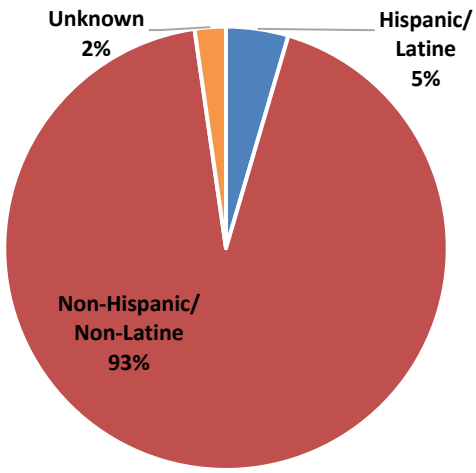
Acute HCV cases **decreased** in 2024; cases have **not rebounded to pre-pandemic levels**. This may be due in part to decreased testing.



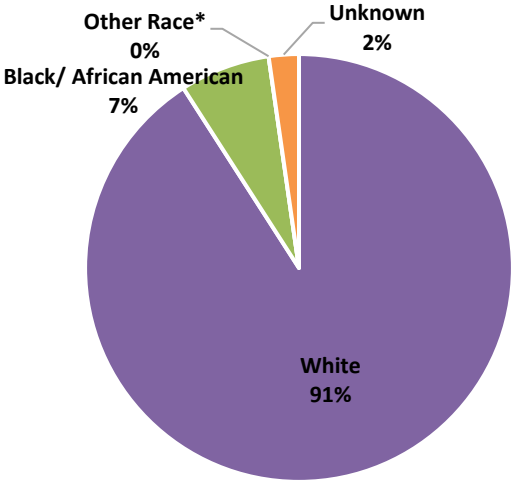
More than half (59%) of acute HCV cases in 2024 were among people **aged 30-49 years**.



Acute HCV cases in 2024 were **primarily (93%)** among **non-Hispanic/non-Latine persons.**



Acute HCV cases in 2024 were **primarily (91%)** among **White persons**.



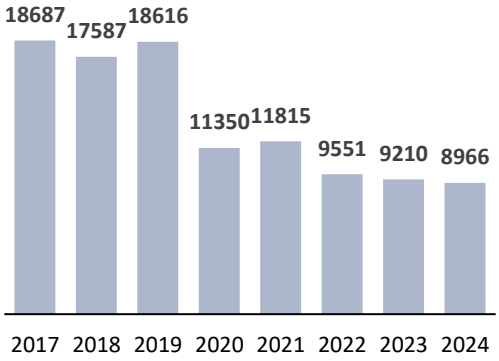
*Other race includes: American Indian/Alaska Native (0.0%), Asian/Pacific Islander (0.0%), and Multiple Race (0.0%)

Chronic Hepatitis C Disease Trends

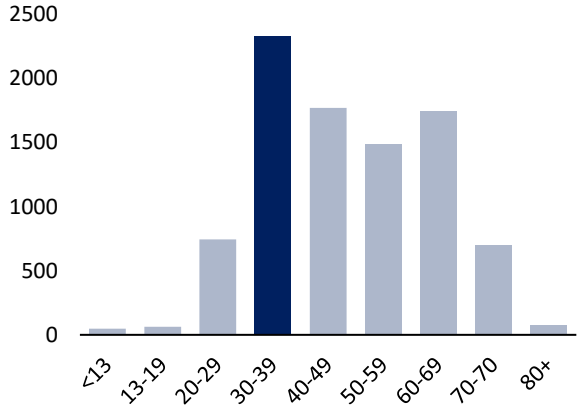
2024 Summary		
Number of cases		8,966
Rate (per 100,000 population)		82.7
Percent change from 2023		-2.6%
Mean age (in years)		48
Gender	**Number (%)**	**Rate**
Male	5,468 (61.0)	103.2
Female	3,479 (38.8)	62.8
Unknown	19 (0.2)	-
Race	**Number (%)**	**Rate**
American Indian/Alaska Native	115 (1.3)	66.5
Asian/Pacific Islander	89 (1.0)	21.4
Black/African American	1,438 (16.0)	60.1
White	4,998 (55.7)	66.1
Multiple Races	126 (1.4)	43.5
Unknown	2,200 (24.5)	-
Ethnicity	**Number (%)**	**Rate**
Hispanic/Latine	253 (2.8)	20.4
Non-Hispanic/Non-Latine	5,116 (57.1)	53.3
Unknown/Unspecified	3,597 (40.1)	-

More than 6 out of 10 chronic HCV cases reported in 2024 were among **men** (61%).

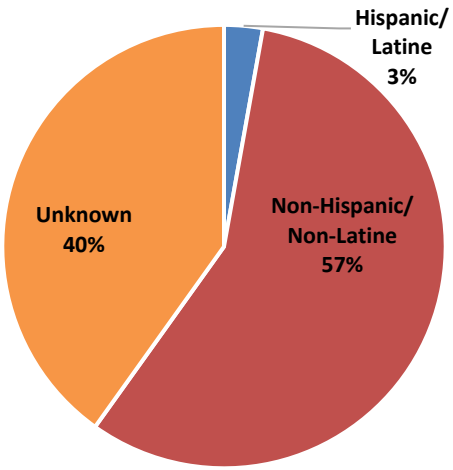
Chronic HCV cases reported in 2024 slightly **declined**; cases have **not rebounded to pre-pandemic levels**. This may be due in part to decreased testing.



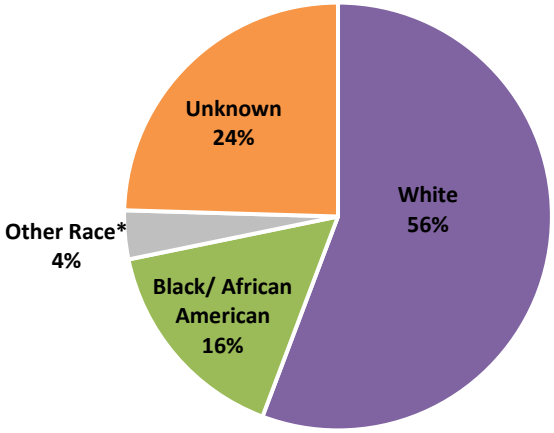
More than one-fourth (26%) of chronic hepatitis C were newly reported among persons **ages 30-39 years**.



At least 57% of chronic HCV cases reported in 2024 were among **non-Hispanic/non-Latine persons**; however, 40% of cases were missing ethnicity data.



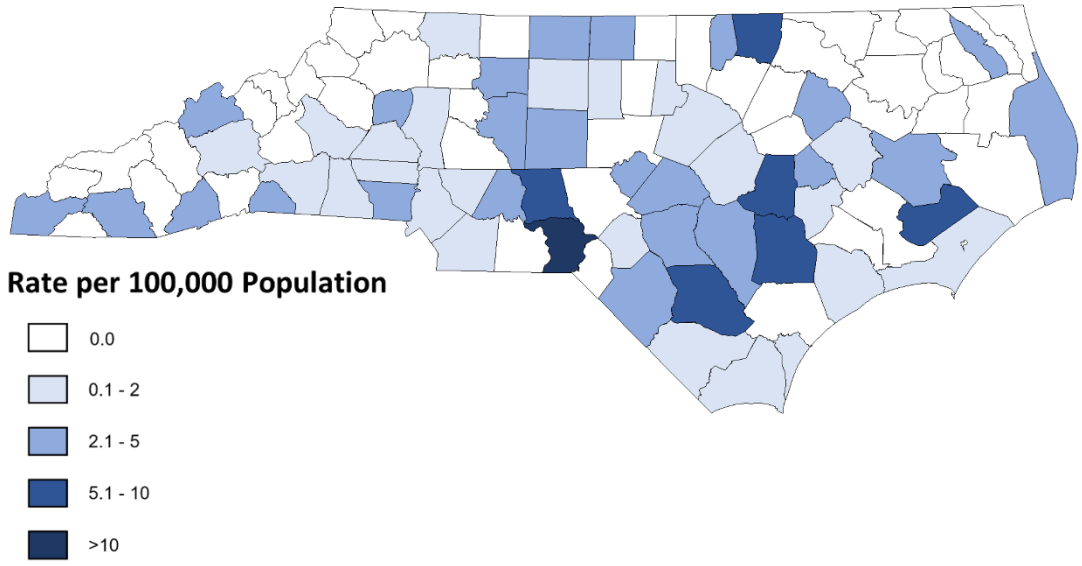
At least 56% of chronic HCV cases reported in 2024 were among **White persons**; however, race data is **missing** for 24% of cases.



*Other race includes: American Indian/Alaska Native (1.3%), Asian/Pacific Islander (1.0%), and Multiple Race (1.4%)

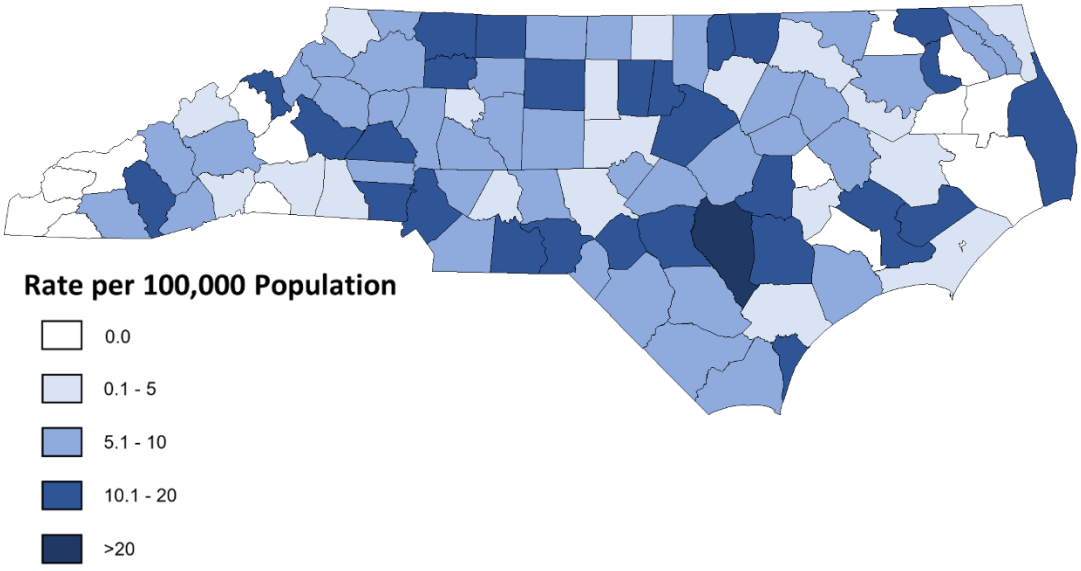
Hepatitis B and C Rate Maps by County of Residence at Diagnosis, 2024

Figure 1. Acute Hepatitis B Rates in North Carolina by County of Residence at Diagnosis, 2024*



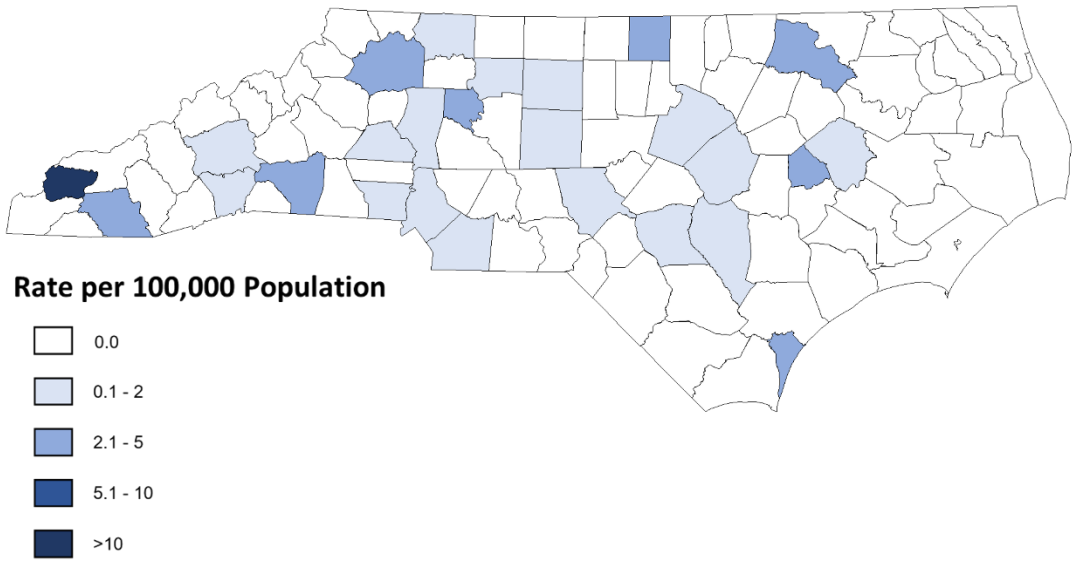
Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of September 2025).
*County rate maps for acute hepatitis B and acute hepatitis C should be viewed with caution as county rates can vary widely with small changes in case numbers.

Figure 2. Chronic Hepatitis B Rates in North Carolina by County of Residence at Diagnosis, 2024



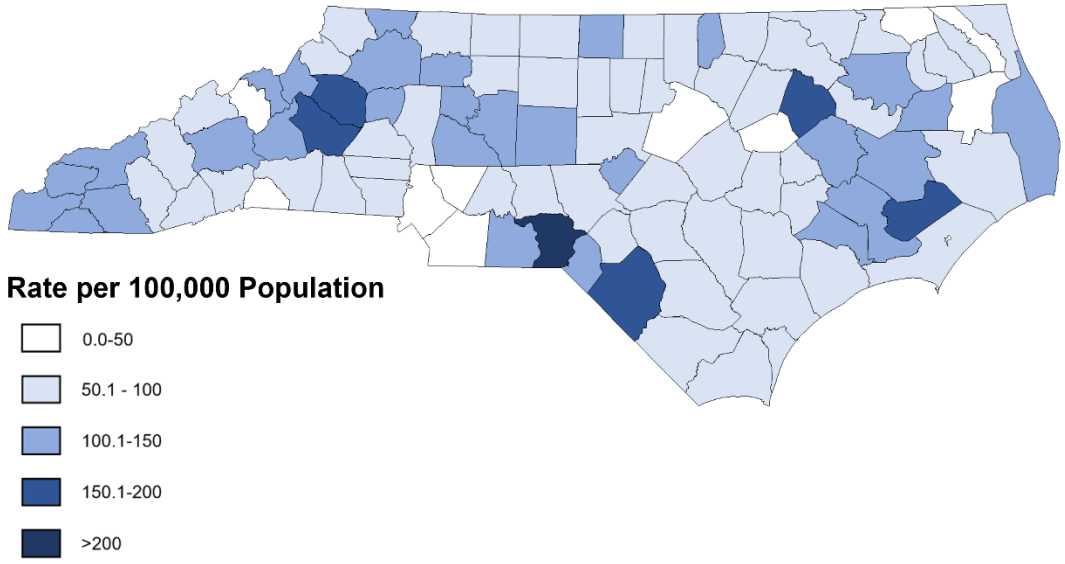
Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of September 2025).

Figure 3. Acute Hepatitis C Rates in North Carolina by County of Residence at Diagnosis, 2024*



Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of September 2025).
*County rate maps for acute hepatitis B and acute hepatitis C should be viewed with caution as county rates can vary widely with small changes in case numbers.

Figure 4. Chronic Hepatitis C Rates in North Carolina by County of Residence at Diagnosis, 2024

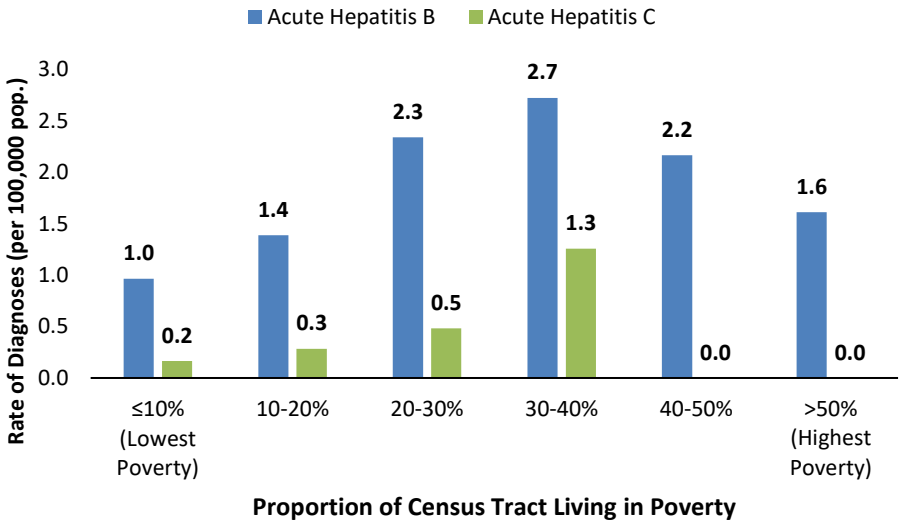


Note: Concentrations in some counties may be due to increased availability of testing.
Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of September 2025).

Poverty and Hepatitis

While the North Carolina surveillance data shows higher hepatitis rates in some racial and ethnic groups, factors such as poverty may be driving these differences.[9] People who cannot afford basic needs may also have trouble accessing quality health services, and may have had negative experiences with health systems that have discouraged them from accessing testing and care programs.[9] For each person diagnosed with acute HBV or HCV in North Carolina in 2024, we calculated the proportion of the population living below the poverty line in their census tract of residence at the time of their diagnosis using five-year (2019-2023) estimates from the American Community Survey. This calculation estimated the neighborhood poverty level experienced for people newly diagnosed with acute HBV or HCV in North Carolina. Figure 5 and Figure 6 show the rate of newly diagnosed acute or chronic HBV and HCV by census tract poverty rate. Figure 5 demonstrates that although people living at all levels of poverty get acute HBV and HCV, those living in census tracts with a higher proportion of residents residing below the federal poverty line are more likely to be diagnosed with HBV. Figure 6 also demonstrates that persons with chronic HBV and HCV infection live in census tracts with at all levels of poverty; however, persons living in the highest levels of poverty were more likely to be diagnosed with chronic HCV infection than those living in lower levels of poverty.

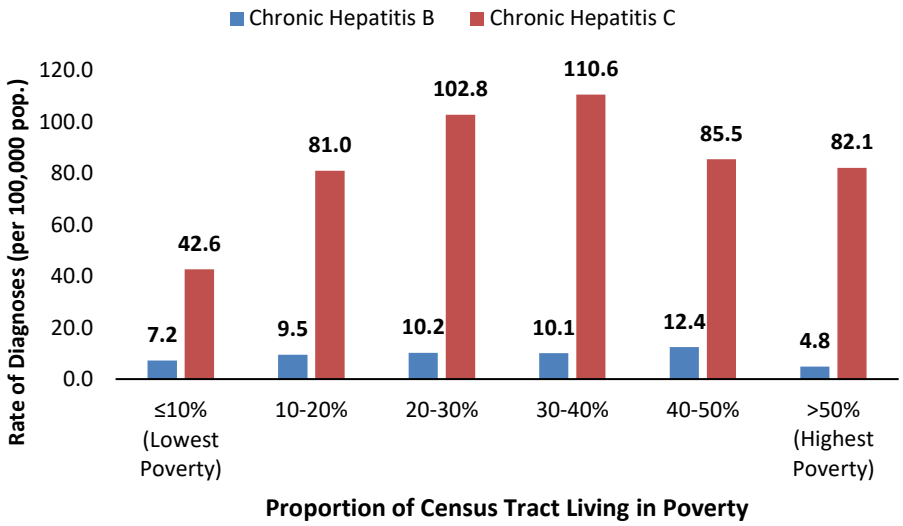
Figure 5. People Diagnosed with Acute Hepatitis B and C in North Carolina by Poverty Indicator^, 2024



^Estimates of people living below the poverty line within a census tract and all population estimates obtained from the American Community Survey, 2019-2023, five-year estimate.
Data Sources: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of September 2025), and 2019-2023 American Community Survey (ACS) five-year estimates (accessed from https://data.census.gov/).

[9] Centers for Disease Control and Prevention. (2024). STI health equity. Updated January 31, 2025. Accessed October 2, 2025. Retrieved from https://www.cdc.gov/sti/php/projects/health-equity.html.

Figure 6. People Diagnosed with Chronic Hepatitis B and C in North Carolina by Poverty Indicator^, 2024



^Estimates of people living below the poverty line within a census tract and all population estimates obtained from the American Community Survey, 2019-2023, five-year estimate.
Data Sources: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of September 2025), and 2019-2023 American Community Survey (ACS) five-year estimates (accessed from https://data.census.gov/).

Hepatitis B Disease Information

Hepatitis B is a vaccine-preventable, mild-to-severe liver infection, caused by the hepatitis B virus (HBV), which can advance from acute to chronic.

The Centers for Disease Control and Prevention (CDC) estimates that there are 640,000 people living with chronic HBV, with about 14,000 new infections a year in the United States.[1] Nationally, the rate of acute HBV has remained stable between 2021 and 2023.[2] According to the CDC, "Although changes in health care-seeking behavior and testing during the COVID-19 pandemic could have affected recent trends, the stability of the rate through 2022 suggests some reduction in HBV transmission, which may be unrelated to disruptions during the COVID-19 pandemic."[1]

Acute versus Chronic Hepatitis B

Acute infection ranges from asymptomatic or mild disease to — rarely — fulminant hepatitis. Some acute HBV infections will resolve on their own, while others will develop into chronic infection. Most people with chronic HBV infection have no outward symptoms of liver disease. However, some people may develop liver inflammation (elevation of aspartate aminotransferase [AST]/alanine aminotransferase [ALT]), cirrhosis, or hepatocellular carcinoma (a type of liver cancer).[2] Between 15% and 25% of people with chronic HBV will develop chronic liver disease, including cirrhosis, liver failure, or liver cancer.[1] Around 25% of people infected with chronic HBV in childhood and 15% of people infected with chronic HBV after childhood die prematurely from cirrhosis or liver cancer.[2]

Transmission of Hepatitis B

HBV can survive outside the body for at least seven days and still cause infection.[2] HBV can be transmitted through sex with an infected person, sharing drug use equipment, sharing personal items (such as toothbrushes and razors), and breaches in infection control resulting in outbreaks in health care facilities. Vertical transmission can also occur between an infected mother and her infant (perinatal HBV).[2] The majority of infections due to perinatal transmission diagnosed in North Carolina are found in people born in countries with moderate to high rates of endemicity (primarily Asian and African countries) who are now North Carolina residents.

People at risk for HBV include:

- Infants born to HBV-infected mothers;
- Sexual partners of HBV-infected people;
- Men who report sex with men;
- People who inject drugs;
- Household contacts of HBV-infected people;
- Health care and public safety workers at risk for occupational exposure; and
- Hemodialysis patients.[2]

[1]Centers for Disease Control and Prevention (CDC) (2025). *Viral Hepatitis Basics.* Updated January 21, 2025. Accessed October 2, 2025. Retrieved from https://www.cdc.gov/hepatitis/about/.
[2]Centers for Disease Control and Prevention (CDC) (2025). *Viral Hepatitis Surveillance Report-United States, 2023.* Updated April 15, 2025. Accessed October 5, 2025. Retrieved from https://www.cdc.gov/hepatitis-surveillance-2023/about/index.html.

Symptoms of Hepatitis B

Newly acquired HBV infections only cause symptoms in certain cases, and symptoms vary by age. Most children under the age of five are asymptomatic, while 30-50% of people older than five years of age have symptoms. People who are immunocompromised are also generally asymptomatic.[2] Symptoms for acute HBV include fever, fatigue, nausea, vomiting, abdominal pain, jaundice, and dark urine. If symptoms do occur, they begin on average 90 days after HBV exposure. Symptoms can typically last for several weeks but can persist up to six months.[1] Since acute infections can be asymptomatic and diagnostic criteria for chronic infections are relatively non-specific, a portion of the reported chronic cases may in fact be acute.[3]

Screening for Hepatitis B

Screening for HBV should be done for individuals born in countries where HBV prevalence is ≥2%, men who have sex with men, people who are HIV positive, household/sexual and needle sharing partners of HBV positive people, people who require immunosuppressive therapies, people undergoing hemodialysis, blood and tissue donors, pregnant women, infants born to HBV-infected mothers, chronic liver disease, end-stage renal disease, and people with elevated alanine aminotransferase levels.[2] All 85 local health departments in North Carolina are able to offer risk-based HBV screening to under and uninsured individuals through the North Carolina State Laboratory of Public Health (NC SLPH).

Treatment for Hepatitis B

Treatment is generally not required for acute HBV, as 90%-95% of people > 5 years of age with acute HBV will spontaneously clear the infection. The risk of developing a life-long chronic infection varies inversely with age; chronic HBV occurs in approximately 90% of infants infected at birth, 20-50% of children 1 to 5 years old, and 1-10% of persons > 5 years of age. The decision to treat chronic HBV is based on serologic measurements and degree of liver inflammation. Several antiviral medications are available to treat HBV and are aimed at suppressing and decreasing the pathogenicity of the virus.[1] There is no cure for HBV at this time.

Vaccination for Hepatitis B

The first HBV vaccine became commercially available in the United States in 1982. There are three single-antigen and three combination vaccines available for HBV in the United States. The vaccination schedule most often used for children and adults is three intramuscular injections, the second and third doses administered at one and six months, respectively, after the first dose at birth.[1] It is recommended that all children from birth to 18 years of age receive the vaccine, and all other adults receive it as soon as possible.

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[1]Centers for Disease Control and Prevention (CDC) (2025). *Viral Hepatitis Basics.* Updated January 21, 2025. Accessed October 2, 2025. Retrieved from https://www.cdc.gov/hepatitis/about/.

[2]Centers for Disease Control and Prevention (CDC) (2024). *Hepatitis B Resources for Health Professionals.* Updated April 30, 2024. Accessed October 5, 2025. Retrieved from https://www.cdc.gov/hepatitis-b/hcp/provider-resources/index.html .

[3]Centers for Disease Control and Prevention. (2012). Chapter 9: Hepatitis B - epidemiology and prevention of vaccine-preventable diseases. In W. Atkinson, S. Wolfe, & J. Hamborsky (Eds.). *The Pink Book: Course Textbook*, 12th edition, 2nd print (pp. 115-138). Washington DC: Public Health Foundation. Retrieved from http://www.cdc.gov/vaccines/pubs/pinkbook/hepb.html.

The Advisory Committee on Immunization Practices (ACIP) recommends vaccinations to the following people:

- All infants;
- Unvaccinated children under the age of 19;
- People at risk for infection by sexual exposure;
- People who inject drugs;
- Household contacts of HBV-infected people;
- Health care and public safety workers at risk for occupational exposure;
- Hemodialysis patients;
- People with diabetes;
- International travelers to countries with high or intermediate levels of endemic HBV;
- People who are infected with hepatitis C;
- People with HIV;
- People with chronic liver disease;
- People who are incarcerated; and
- People seeking protection from HBV.[2]

Hepatitis C Disease Information

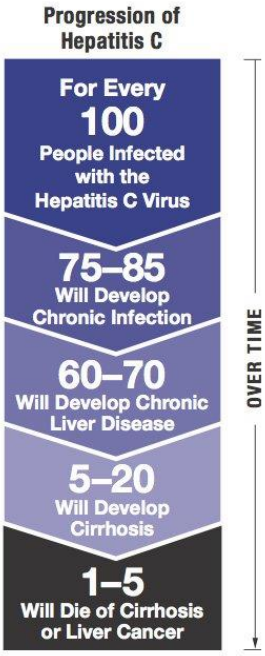
Hepatitis C is a liver infection caused by the hepatitis C virus (HCV), which can advance from acute to chronic. The CDC estimates that over 2.4 million people are living with HCV, and that there are around 70,000 new infections in 2023 in the United States. HCV is a common reason for liver transplants in the United States.[1] In North Carolina, we estimate that at least 200,000 people are living with chronic HCV.

Acute versus Chronic Hepatitis C

HCV can be classified as acute (mild illness lasting a few weeks and up to six months) or chronic (greater than six months). Approximately 75-85% of those infected with HCV develop a chronic infection.[4] Between 5% and 20% of people who develop chronic HCV will develop cirrhosis, and 1-5% will die from either cirrhosis or liver cancer (Figure 7).[4,5]

[1]Centers for Disease Control and Prevention (CDC) (2025). *Hepatitis C Basics.* Updated September 2, 2025. Accessed October 2, 2025. Retrieved from https://www.cdc.gov/hepatitis-c/about/index.html.
[4]Centers for Disease Control and Prevention (CDC) (2024). *Hepatitis C Resources for Health Professionals.* Updated May 30, 2024. Accessed October 5, 2025. Retrieved from https://www.cdc.gov/hepatitis-c/hcp/resources/index.html.
[5]Image from Hepatitis Foundation International. Accessed on June 18, 2019. https://hepatitisfoundation.org/HEPATITIS/Hepatitis-C.html.

Figure 7. Progression of Hepatitis C[5]



Transmission of Hepatitis C

HCV transmission occurs primarily through infected blood. The most common way HCV is transmitted in the United States is through injection drug use (IDU). HCV can also be transmitted through the receipt of blood (including blood products and organs), needlestick injuries in health care settings, and vertical transmission (HCV-infected mother-to-child). While infrequent, HCV can also be spread through sexual contact with an HCV-infected person, sharing personal items contaminated with infectious blood (such as toothbrushes and razors), unregulated tattooing, and other health care procedures that involve invasive procedures.[4]

People at increased risk for HCV include:

- People who inject drugs;
- Recipients of clotting factor concentrates made before 1987;
- Recipients of blood transfusions or solid organ transplants prior to July 1992;
- Children born to HCV-infected mothers;
- People with HIV;
- Health care workers with known exposure to HCV;
- Recipients of blood or organs from a donor who tested positive for HCV; and
- Hemodialysis patients.[4]

[4]Centers for Disease Control and Prevention (CDC) (2020). *Hepatitis C Questions and Answers for Health Professionals.* Updated August 7, 2020. Accessed October 5, 2022. Retrieved from https://www.cdc.gov/hepatitis/hcv/hcvfaq.htm#section2.
[5]Image from Hepatitis Foundation International. Accessed on June 18, 2019. https://hepatitisfoundation.org/HEPATITIS/Hepatitis-C.html.

Symptoms of Hepatitis C

The majority of people who newly acquire HCV are asymptomatic or have mild symptoms. Symptoms include fever, fatigue, nausea, vomiting, abdominal pain, joint pain, jaundice, dark urine, and clay-colored stool. If symptoms do occur, they begin on average two to 12 weeks after HCV exposure.[4] The acute form of the infection is a short-term illness that occurs within the first six months after someone is exposed to the virus. Most people infected with chronic HCV are asymptomatic or have non-specific symptoms (like fatigue and depression).[4] Progression of chronic liver disease is generally gradual, though can progress more quickly in certain subgroups (i.e. HIV coinfection). Most HCV infection is not recognized in asymptomatic people until they are screened for either blood donations, if routine screening is performed, or if elevated liver enzyme levels are detected during routine examinations.[4]

Screening for Hepatitis C

The CDC updated screening guidance for HCV in Spring 2020. The CDC recommends a one-time HCV testing in all adults (18 years and older), except in settings where the prevalence of HCV is less than 0.1%, and in all pregnant women during every pregnancy.[5] The following guidance was also updated for screening for HCV[5]:

- **One-time hepatitis C testing regardless of age or setting prevalence among people with recognized conditions or exposures**:
    - People with HIV;
    - People who ever injected drugs and shared needles, syringes, or other drug preparation equipment, including those who injected once or a few times many years ago;
    - People with selected medical conditions, including:
        - people who ever received maintenance hemodialysis; and
        - people with persistently abnormal ALT levels.
    - Prior recipients of transfusions or organ transplants, including:
        - people who received clotting factor concentrates produced before 1987;
        - people who received a transfusion of blood or blood components before July 1992;
        - people who received an organ transplant before July 1992; and
        - people who were notified that they received blood from a donor who later tested positive for HCV infection.
    - Health care, emergency medical, and public safety personnel after needle sticks, sharps, or mucosal exposures to HCV-positive blood; and
    - Children born to mothers with HCV infection.
- **Routine periodic testing for people with ongoing risk factors**, while risk factors persist:
    - People who currently inject drugs and share needles, syringes, or other drug preparation equipment; and
    - People with selected medical conditions, including:
        - people who ever received maintenance hemodialysis.

[1]Centers for Disease Control and Prevention (CDC) (2024). *Hepatitis C Resources for Health Professionals.* Updated May 30, 2024. Accessed October 5, 2025. Retrieved from https://www.cdc.gov/hepatitis-c/hcp/resources/index.html.
[4]Centers for Disease Control and Prevention (CDC) (2024). *Hepatitis C Resources for Health Professionals.* Updated May 30, 2024. Accessed October 5, 2025. Retrieved from https://www.cdc.gov/hepatitis-c/hcp/resources/index.html.
[5]Schillie S, Wester C, Osborne M, Wesolowski L, Ryerson AB (2020). *CDC Recommendations for Hepatitis C Screening Among Adults-United States, 2020.* MMWR Recomm Rep 3030;69(NO. RR-2): 1-17. Retrieved from: https://www.cdc.gov/mmwr/volumes/69/rr/rr6902a1.htm.

- **Any person who requests hepatitis C testing** should receive it, regardless of disclosure of risk, because many people may be reluctant to disclose stigmatizing risks

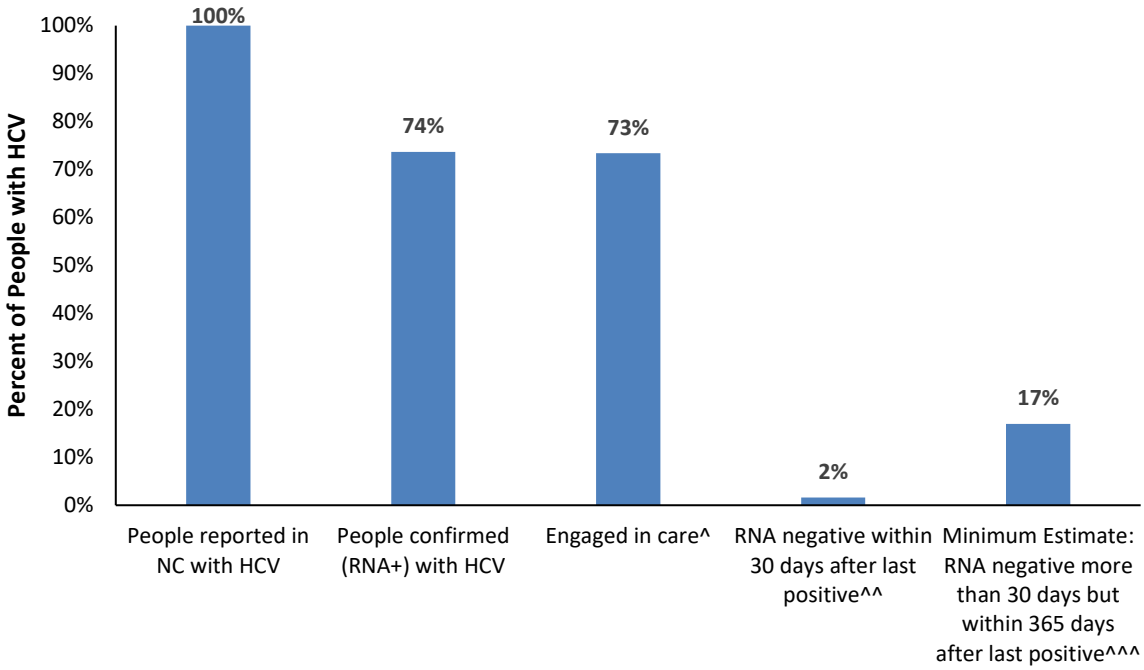
Treatment for Hepatitis C

Treatment was not recommended for acute HCV until 2020. In 2013, direct acting antiviral therapies to treat chronic HCV became available that are associated with high cure rates (>95%), low likelihood of side effects, and lower risk of drug-drug interactions. Over 90% of HCV-infected people can be cured of HCV within eight to 12 weeks of oral therapy.[4]

Figure 8 represents the North Carolina surveillance-based treatment cascade for cases from 2020 through 2024. Our treatment cascade includes any individual reported with acute or chronic HCV over the age of 3 in 2024 and living at the end of 2024. It is based on surveillance labs only, and negative lab reporting is not required by law in North Carolina. However, the state database does receive negative HCV viral tests when an HCV record matches to an individual in our surveillance system. Our surveillance-based HCV treatment cascade includes the proportion of HCV cases confirmed (RNA-positive), the proportion of confirmed cases engaged in care, the proportion of confirmed cases with a negative RNA HCV within 30 days after the last RNA-positive lab (potential indicator of natural clearance), and the proportion of confirmed cases with a negative RNA more than 31 days but within 365 days after the last positive (Figure 8). We use the last parameter as a proxy for sustained virologic response (SVR), as our data on SVR are incomplete. Since negative tests may not match to existing surveillance records, and people in treatment may not get a final RNA test, this is a minimum estimate of treatment and cure.

[4]Centers for Disease Control and Prevention (CDC) (2024). *Hepatitis C Resources for Health Professionals.* Updated May 30, 2024. Accessed October 5, 2025. Retrieved from https://www.cdc.gov/hepatitis-c/hcp/resources/index.html.

Figure 8. North Carolina Surveillance-Based Hepatitis C Treatment Cascade, 2020-2024



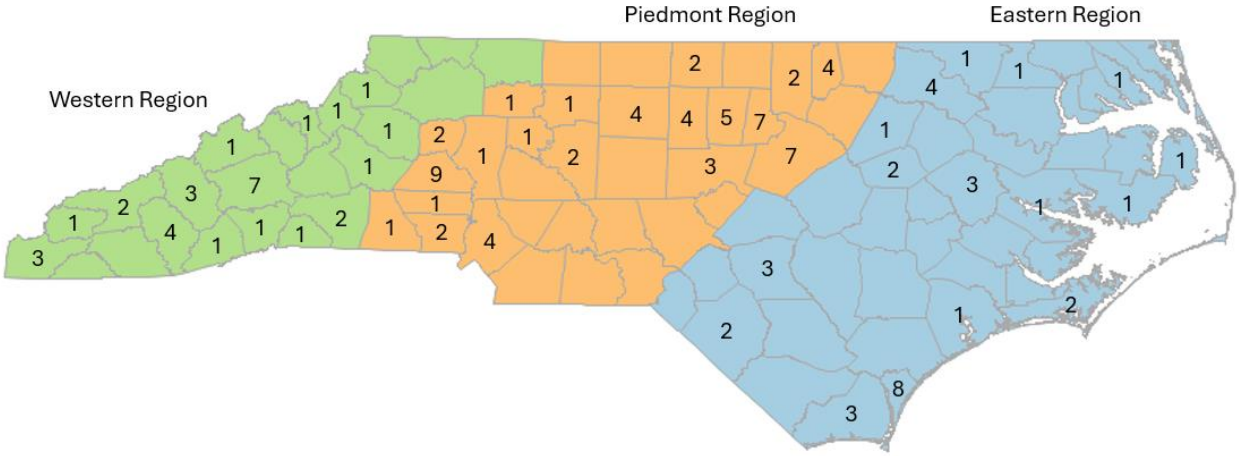
^Engaged in care is defined as having an additional RNA after their initial date of report to public health.
^^RNA-negative less than 30 days of positive is a potential indicator of natural clearance, and therefore is its own parameter.
^^^Defined as the minimum number of all confirmed HCV cases that achieved SVR. This is likely a significant underestimate of treatment and cure as not all negative laboratory results are reported and persons may not receive a final RNA result after treatment.
Negative RNA results are reported into the surveillance system only if an HCV record matches to a subsequent negative test.
Case definition for hepatitis C changed in 2016 and then again in 2020.
Includes people reported with acute hepatitis C starting in 2020.
Data Source: North Carolina Electronic Disease Surveillance System (NC EDSS) (data as of September 2025).

The North Carolina Viral Hepatitis Program (NCVHP) maintains a statewide bridge counselor program that aims to establish and promote linkage to care activities for HCV positive patients. In 2024, there were eight HCV regional bridge counselors and one state bridge counselor in North Carolina. The HCV bridge counselors offer support and guidance to those who may otherwise have difficulty accessing both medical treatment and social services.

NCVHP, in collaboration with Duke University and the University of North Carolina-Chapel Hill, has developed a partnership to address limited resources for HCV treatment. Carolina Hepatitis Academic Mentorship Program (CHAMP) is a telemedicine program designed to increase access to HCV and HBV treatment in North Carolina. CHAMP offers health care providers the opportunity to participate in a one-day boot camp, an intensive course on evaluation and treatment of patients with HCV. In 2024, CHAMP introduced a boot camp focused specifically on treatment for HBV. In addition to the boot camp, providers have biweekly conference calls with CHAMP mentors, which includes time for discussion of cases and continued education on effective treatment options. The CHAMP program also provides education and guidance around program development and linkage to resources for uninsured and

underinsured patients. CHAMP has trained over 400 treating providers since the program's inception in 2016. For more information about CHAMP, visit: https://epi.dph.ncdhhs.gov/cd/hepatitis/CHAMP-Brochure_FINAL-WEB.pdf.

Figure 9. CHAMP Provider Locations in North Carolina by County and Region, 2023



Prevention of Hepatitis C

There is no vaccine for HCV, but people infected with HCV should be vaccinated against hepatitis B and hepatitis A.

NCVHP manages several prevention projects, including a perinatal HCV pilot and a testing and outreach partnership with the North Carolina Harm Reduction Coalition (NCHRC). The NCHRC program provides harm reduction materials to syringe access programs and community-based organizations to prevent the transmission of hepatitis, HIV, and other STDs. For more information about NCHRC, visit: http://www.nchrc.org/.

The Injury and Violence Prevention Branch oversees the North Carolina Safer Syringe Initiative. The initiative provides information about existing syringe access programs in the state, resources for health care providers and law enforcement agencies, testing and treatment programs, information about the syringe exchange law, and information for health departments, community-based organizations, and other agencies interested in starting their own access program. For more information, visit: https://www.ncdhhs.gov/divisions/public-health/north-carolina-safer-syringe-initiative.

NCVHP has also created a regional drug user health resource guide. This guide contains regional specific information on low cost/free clinics, housing, food pantry and community means, hepatitis treatment providers, and syringe access programs. It also includes information on gastroenterologists, medication assisted treatment, behavioral health, and narcotics anonymous chapters. This resource guide is available online: https://testyourwell.nc.gov/cd/hepatitis/DrugUserHealthResourceGuide_08102021.pdf.

Perinatal Hepatitis C

Rates of HCV acute and chronic HCV infections have been steadily increasing in the United States since 2010 according to the CDC, with rates of acute infections more than tripling among reproductive-aged persons as of 2021, from 0.8 to 2.5 per 100,000 population among persons aged 20–29 years and from 0.6 to 3.5 among persons aged 30–39 years. As a result of increasing rates of acute infections in reproductive-aged persons and subsequent chronic infections, overall rates of HCV infections during pregnancy have increased by 20% during 2016–2020 and up to tenfold during 2000–2019. From 2011 - 2014, the CDC estimates that 29,000 HCV-infected people gave birth each year. HCV can be transmitted from an infected birthing parent to the child during both pregnancy and childbirth. The CDC estimates that vertical transmission occurs in about 5.8-7.2% of all pregnancies.[6] Perinatal HCV infection is confirmed if an infant between 2 and 36 months of age has a positive HCV RNA, HCV genotype, or HCV antigen.[7] Perinatal HCV is not a reportable condition in all reporting jurisdictions, but the CDC reported 235 infants with HCV in 2023.[8]

Perinatal hepatitis C is not a reportable condition in North Carolina, so data on this condition are incomplete. Below are the results of an analysis where HCV cases reported during 2017-2023 were matched to birth records from the State Center for Health Statistics from 2017-2023.

- 38,726 women were diagnosed with HCV and reported to NC during 2017-2023; of these, 23,195 total women were of childbearing age (14-50 years of age).
- 850,205 live births occurred in NC from Jan 2017 to Dec 2023 (from birth records). Among these, 4,345 births had maternal HCV infection documented on birth certificate.
- 2,392 /4,345 women in NC with a confirmed HCV infection (RNA-positive) matched to birth records (55% of the cases identified on birth certificates)
    - Using 5-7% vertical transmission rate, we expect to see between 120 and 167 perinatal HCV cases in NC
- 216 confirmed cases of perinatal HCV cases were reported during 2017-2023, which is above the expected range

In July 2021, the NCVHP started a perinatal HCV referral process available to all LHDs and providers across the state. The NC SLPH has authorized free HCV testing for all pregnant persons, aged 18 years and older. Screening during pregnancy is recommended per CDC, unless the prevalence is <0.1%. In North Carolina, HCV prevalence for people younger than 18 was <0.1% in 2021. NCVHP has a perinatal HCV nurse, in charge of following the pregnant persons throughout their pregnancy, and the infant once they are born. The nurse supports postpartum birthing persons to be referred to treatment and care, while the infant will be followed to ensure testing occurs at the recommended time to determine HCV status.

[6]CPanagiotakopoulos L, Sandul AL, et al. CDC Recommendations for Hepatitis C Testing Among Perinatally Exposed Infants and Children — United States, 2023. MMWR Recomm Rep 2023;72(No. RR-4):1–19. DOI: http://dx.doi.org/10.15585/mmwr.rr7204a1.
[7]Centers for Disease Control and Prevention (2021). Hepatitis C, perinatal infection 2018 case definition. Updated April 16, 2021. Accessed October 5, 2022. Retrieved from https://ndc.services.cdc.gov/case-definitions/hepatitis-c-perinatal-infection-2018/.
[8] Centers for Disease Control and Prevention (2025). 2023 Hepatitis Surveillance Report: Table 3.4. Number of newly reported cases of perinatal hepatitis C virus infection, by state or jurisdiction-United States, 2023. Updated April 15, 2025. Accessed October 9, 2025. Retrieved from https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-c/table-3-4.html.

Appendix A: Hepatitis B and C Surveillance Notes and Case Definitions

About the Authors

North Carolina law requires that diagnoses of certain communicable diseases, including STDs, be reported to local health departments that in turn report the information to the state. The HIV/STD/Hepatitis Surveillance Unit is the designated recipient for STD and viral hepatitis B (HBV) and hepatitis C (HCV) morbidity reports at the state level. From these reports, the HIV/STD/Hepatitis Surveillance Unit is responsible for aggregating these reports and providing county, regional, and statewide information about STDs and viral HBV and HCV to others, including the CDC. The HIV/STD/Hepatitis Surveillance Unit is part of the Communicable Disease Branch within the North Carolina Division of Public Health.

Hepatitis B Surveillance Data

Acute Hepatitis B is reported in people without a previous chronic hepatitis B diagnosis and who either have a confirmed acute illness with discrete of jaundice, elevated serum alanine aminotransferase levels (ALT) (>200 IU/L), or elevated total bilirubin levels ≥ 3.0mg/dL and confirmatory laboratory evidence for HBV infection or who have a positive IgM antibody to HBV core antigen (anti-HBc) and confirmatory laboratory evidence of HBV infection with or without the presence of signs/symptoms of acute hepatitis or elevated liver function test results.[10] Confirmatory evidence of HBV infection includes positive laboratory results for HBV surface antigen (HBsAg), HBV DNA, or HBV e antigen (HBeAg) tests. Chronic HBV infection is reported for people who do not meet acute hepatitis B criteria and who have positive confirmatory evidence of HBV infection. .[11] Perinatal HBV is reported in children born to HBV-infected mothers who are ≤24 months of age and have one or more of the following: positive HBsAg (only if at least four weeks after last dose of HBV vaccine), positive HBeAg, or detectable HBV DNA.[12L]

2024 Hepatitis B Case Definition

Prior to 2024, all cases were classified using the 2012 case definition. Beginning in 2024, all cases were classified using the updated 2024 case definition. The 2024 case definition increased the sensitivity and specificity of acute case classification by increasing the liver enzyme cutoff level, removing the clinical signs/symptoms requirements, and adding criteria for excluding persons with previous history of hepatitis B or evidence of hepatitis B reactivation. Comparisons with previous years should be interpreted with caution.

[10] Centers for Disease Control and Prevention. (2021). Viral Hepatitis Surveillance and Case Management: Guidance for State, Territorial, and Local Health Departments.. Updated February 29, 2024. Accessed October 13, 2025. Retrieved from https://www.cdc.gov/hepatitis/php/surveillance-guidance/index.html.

[11] Centers for Disease Control and Prevention (2024). National Notifiable Disease Surveillance System (NNDSS): Hepatitis B, acute and chronic 2024 case definition. https://ndc.services.cdc.gov/case-definitions/hepatitis-b-acute-and-chronic-2024/.

[12] Centers for Disease Control and Prevention (2017). National Notifiable Disease Surveillance System (NNDSS): Hepatitis B, perinatal infection 2017 case definition. https://ndc.services.cdc.gov/case-definitions/hepatitis-b-perinatal-virus-infection-2017/.

Table 1. Key Differences Between the 2012 and 2024 Hepatitis B Case Definitions[13]

Disease Type	Key Changes	Case Definition	
		2012	2024
Acute and Chronic Hepatitis B	Acute and chronic HBV case definitions combined in a single document	No	Yes
	Specify which HBV infection cases should be classified via the Perinatal HBV case definition	No	Yes
Acute Hepatitis B	ALT level required for classification	>100 IU/L	>200 IU/L
	Excludes cases with a previous history of acute or chronic HBV infection (e.g. HBV reactivation)	No	Yes
	Seroconversion period sufficient for classification	≤6 months	≤12 months
	Total bilirubin included as a measure of jaundice	No	Yes
	Positive HBV DNA test included as confirmatory laboratory evidence of acute HBV infection	No	Yes
	Clinical criteria required when laboratory evidence of acute HBV infection is present (positive IgM anti-HBc AND positive viral detection test)	Yes	No
	Allow confirmation of cases with clinical evidence of acute infection and with positive viral detection tests and no IgM anti-HBc test result	No	Yes
	Probable case classification for individuals with acute clinical evidence who are IgM anti-HBc positive, but whose viral detection test is either not done or negative	No	Yes
Chronic Hepatitis B	A single HBV DNA sufficient for confirmation of hepatitis B infection	No	Yes
	Allow case confirmation based on a positive total anti-HBc and HBsAg or HBeAg results performed in the same period	No	Yes
	Allow case confirmation based on a positive HBsAg and HBeAg results performed at the same period	No	Yes

The new 2024 case definitions of acute and chronic HBV are outlined below.

Clinical Criteria

In the absence of a more likely, alternative diagnosis*, acute onset or new detection of at least one of the following:

- Jaundice; OR
- Peak elevated total bilirubin levels ≥3.0 mg/dL; OR

[13] Council of State and Territorial Epidemiologists. (2023). 23-ID-05: Update to Public Health Reporting and National Notification for Acute and Chronic Hepatitis B Infections. Accessed December 12, 2025. Retrieved from https://cdn.ymaws.com/www.cste.org/resource/resmgr/ps/ps_2023/23-ID-05_Hepatitis_B.pdf.

- Peak elevated serum alanin aminotransferase (ALT) levels >200 IU/L; AND
- The absence of a more likely diagnosis.

**Alternative diagnoses may include evidence of acute liver disease due to other causes or advanced liver disease due to hepatitis B reactivation, pre-existing chronic HBV infection, other causes including alcohol exposure, other viral hepatitis, hemochromatosis, or conditions known to produce false positives of hepatitis B surface antigen, etc.*

Acute HBV

Laboratory Criteria

Confirmed Laboratory Evidence:

Tier 1

- Detection of HBsAg† **AND** detection of IgM anti-HBc, **OR**
- Detection of HBeAg **AND** detection of IgM anti-HBc, **OR**
- Detection of HBV DNA†† **AND** detection of IgM anti-HBc, **OR**
- Detection of HBsAg,† HBeAg, or HBV DNA within 12 months (365 days) of a negative HBsAg test result (i.e., HBsAg seroconversion).

Tier 2

- Detection of HBV surface antigen (HBsAg)† **AND** IgM antibody to HBV core antigen (IgM anti-HBc) test not done or result not available, **OR**
- Detection of HBV DNA†† **AND** IgM anti-HBc test not done or result not available.

Presumptive Laboratory Evidence:

- Detection of IgM anti-HBc, **AND**
- Negative or test not done for HBsAg, HBV DNA, or HBeAg.

† If information on HBsAg test method is available and HBsAg confirmatory neutralization was performed as recommended, HBsAg positive by confirmatory neutralization.
†† DNA detection by nucleic acid test, including qualitative, quantitative, or genotype testing.

Case Classification

Probable

- Meets clinical criteria **AND** presumptive laboratory evidence of acute HBV infection.

Confirmed

- Meets Tier 1 confirmatory laboratory evidence of acute HBV infection, **OR**
- Meets clinical criteria **AND** Tier 2 confirmatory laboratory evidence of acute HBV infection.

Chronic HCV

Laboratory Criteria

Confirmed Laboratory Evidence:

- Detection of HBsAg† in two clinical specimens taken ≥ 6 months apart, **OR**
- Detection of HBeAg in two clinical specimens taken ≥ 6 months apart, **OR**
- Detection of [HBsAg† **OR** HBeAg] AND total anti-HBc, **OR**
- Detection of HBsAg† **AND** HBeAg, **OR**
- Detection of HBV DNA.††

Presumptive Laboratory Evidence:

- Detection of [HBsAg† **OR** HBeAg] **AND** IgM anti-HBc test negative, not done, or result not available.

† If information on HBsAg test method is available and HBsAg confirmatory neutralization was performed as recommended, HBsAg positive by confirmatory neutralization.
†† DNA detection by nucleic acid test, including qualitative, quantitative, or genotype testing.

Case Classification

Probable

- Meets presumptive laboratory evidence of chronic HBV infection.

Confirmed

- Meets confirmatory laboratory evidence of chronic HBV infection.

Hepatitis C Surveillance Data

Acute Hepatitis is reported in people who have a confirmed acute illness with discrete onset of symptoms, jaundice or elevated serum aminotransferase levels, and meet the laboratory criteria of: serum alanine aminotransferase levels greater than seven times the upper limit of normal and IgM anti-hepatitis A negative, and IgM anti-HBc negative or HBsAg negative, and antibody to hepatitis C (anti-HCV) positive by EIA, verified by an additional assay (like a nucleic acid test for HCV RNA) or anti-HCV positive with a signal cut-off ratio predictive of a true positive as determined for the particular assay.[14]

2020 Hepatitis C Case Definition

In 2020, the HCV case definition changed again, in order to account for asymptomatic cases. The new 2020 case definitions of acute and chronic HCV are outlined below.

[14] Centers for Disease Control and Prevention. (2017). National Notifiable Disease Surveillance System (NNDSS): Hepatitis C, Acute 2016 Case Definition. Retrieved from https://ndc.services.cdc.gov/case-definitions/hepatitis-c-acute-2016/.

Acute HCV

Clinical criteria should only include cases over the age of 36 months, and must have one of the following[15]:

- 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.

Laboratory criteria for acute HCV include[15]:

Confirmed

- Positive HCV virus detection: nucleic acid test (NAT) for HCV RNA (including qualitative, quantitative, or genotype); OR
- A positive test indicating presence of HCV viral antigens.

Probable

- A positive anti-HCV test (antibodies for HCV)

Chronic HCV

Clinical criteria is not available for chronic HCV. Only laboratory criteria is used to classify chronic HCV. Chronic HCV should only include cases over the age of 36 months, and must have one of the following laboratory criteria[16]:

Confirmed

- Positive HCV virus detection: nucleic acid test (NAT) for HCV RNA (including qualitative, quantitative, or genotype); OR
- A positive test indicating presence of HCV viral antigens.

Probable

- A positive anti-HCV test (antibodies for HCV)

Chronic HCV surveillance started in North Carolina in late 2016. These numbers are likely an underestimation, as chronic HCV is only reportable by electronic lab reporting. Risk of exposure data is not collected for chronic HCV cases, as these cases are not investigated at this time.

[15] Centers for Disease Control and Prevention. (2021). National Notifiable Disease Surveillance System (NNDSS): Hepatitis C, Acute 2020 Case Definition. Retrieved from https://ndc.services.cdc.gov/case-definitions/hepatitis-c-acute-2020/.

[16] Centers for Disease Control and Prevention. (2021). National Notifiable Disease Surveillance System (NNDSS): Hepatitis C, Chronic 2020 Case Definition. Retrieved from https://ndc.services.cdc.gov/case-definitions/hepatitis-c-chronic-2020/.