



Department of
Health

2024

TENNESSEE VIRAL HEPATITIS

EPIDEMIOLOGICAL PROFILE

**Communicable and Environmental Diseases
and Emergency Preparedness**

Viral Hepatitis Program

Fall 2025

TABLE OF CONTENTS

03

Background

11

Hepatitis B

25

Hepatitis C

39

Pregnant Tennesseans

43

Perinatal Hepatitis C

47

Hepatitis C Care Cascade

52

Cancer

55

Persons Living with Hepatitis C

59

Hepatitis C & HIV Co-infection

62

Hepatitis B & Hepatitis C
Associated Mortality

67

Appendix

Hepatitis Background

Report Background

In Tennessee, acute hepatitis B as well as acute and perinatal hepatitis C are designated as reportable conditions. Demographic information, vital status, self-reported risk factors (acute hepatitis B and C only), and laboratory results are collected. This data is stored in the Tennessee National Electronic Disease Surveillance System (NEDSS) Base System (NBS), which is managed by the Viral Hepatitis Program, and is used to create annual epidemiological profiles. Viral hepatitis surveillance efforts at TDH began in 2016, and this report will focus on the most recent five years of data. All data reflect information reported to TDH as of June 12, 2025. Race and ethnicity were combined in our reporting because evaluating them separately revealed minimal overlap and did not produce distinct analytic differences. In the analysis, we compare people who identify as Hispanic/Latino with those who do not. For non-Hispanic individuals, we report only their race (e.g., someone who is non-Hispanic and Asian is labeled simply as Asian). For some hepatitis-specific populations, Asian case counts were too small for meaningful analysis and were grouped into a "Other" category, which includes Asian, American Indian/Alaska Native, multiracial, and other reported groups. Because incarcerated populations in Tennessee and nationally have higher rates of hepatitis B and C, they were excluded from regional and county-level analyses, unless otherwise noted, to avoid artificially inflating rates in areas with correctional facilities. Incarceration was defined as having a most recent laboratory report associated with an address corresponding to a state correctional facility. *Note: In March 2020, TN diagnosed its first case of COVID-19. The COVID-19 pandemic likely resulted in fewer individuals seeking testing for infectious diseases, including hepatitis B and C. As a result, any low rates observed in 2020 should be interpreted with caution.*

Mortality

TDH Vital Statistics final mortality data was delayed in 2024, so provisional data was leveraged for all related analyses. We summarized mortality trends among individuals with hepatitis B or hepatitis C infection, listed as one of the multiple causes of death, as per the following ICD-10 Codes (B16, B17.0, B18.0, B18.1, B17.1, and B18.2), and reported to the TDH Division of Viral Statistics from 2020 to 2024. Although death certificate data can help characterize deaths associated with HBV or HCV, underreporting of HBV and/or HCV as an underlying cause or contributing cause of death does occur. Further, the 2020 mortality rate should be interpreted with caution, as there were overall increases in deaths due to the COVID-19 pandemic. For the general population of TN from 2020–2024, the leading underlying cause of death was related to heart disease, which accounted for 19.3% of deaths, and the median age of death was 74 years.

Hepatitis Background

Hepatitis B

Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus.^[1] HBV transmission is primarily through contact with infected blood or other body fluids.^[1] Hepatitis B has been vaccine-preventable since 1982 and has been a universally recommended childhood vaccination since 1991.^[2] Despite this, hepatitis B remains a major public health challenge in the US, and progression of acute to chronic hepatitis B is highly dependent upon age. Approximately 90% of infants with perinatal hepatitis B develop chronic hepatitis B, while only 5% of adults with acute hepatitis B develop chronic hepatitis B.^[1] There is currently no cure for hepatitis B, but treatment is available. Due to conditions like cirrhosis and liver cancer, people living with chronic hepatitis B can die prematurely if left untreated.^[1]



Approximately 90% of infants with perinatal hepatitis B develop chronic hepatitis B, while about 5% of adults with acute hepatitis B develop chronic hepatitis B.^[1]

Strategies for the elimination of hepatitis B include:



Universal vaccination of infants at birth



Routine hepatitis B screening of all pregnant people at first prenatal visit



Vaccination of previously unvaccinated children and adults



Vaccination of adults at increased risk for hepatitis B

According to a 2022 study, coastal and Appalachian regions experience significantly higher hepatitis B mortality and a younger age at death when compared to the rest of the country. These differences are so pronounced in the Ohio River Valley and Appalachian regions that they reduced the overall life expectancy in these areas.^[3] Over half of Tennessee's counties (52 of 95) fall within the Ohio River Valley and Appalachian Region.

Hepatitis Background

Acute hepatitis B occurs within six months of HBV exposure and may cause no symptoms or lead to more severe illness requiring hospitalization. In some cases, the infection becomes chronic, which can persist for life and lead to complications such as cirrhosis, liver cancer, or liver failure.^[4]

In 2024, the Council of State and Territorial Epidemiologists (CSTE) and CDC updated the national hepatitis B surveillance case definition, placing greater emphasis on laboratory testing over clinical findings to confirm cases. This change has not significantly affected case counts, as Tennessee continues to see a decline in reported hepatitis B cases. Despite this decline, Tennessee historically has had one of the highest reported rates of acute hepatitis B among U.S. states. The reasons for the overall trend in declining reported cases are unclear, but may include improved prevention, vaccination, harm reduction, access to care, or a decline in hepatitis B-related mortality.

5

In 2023, Tennessee ranked **5th** in the nation for **acute hepatitis B** cases, with a rate of 1.3 per 100,000 people^[5]

6

In 2023, Tennessee ranked **6th** in the nation for **chronic hepatitis B** cases, with a rate of 6.7 per 100,000 people^[6]

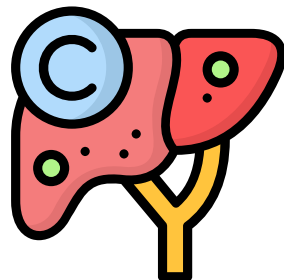
17

In 2023, TN ranked **17th** in the nation for **deaths caused by hepatitis B**, with a rate of 0.44 per 100,000 people^[7]

Hepatitis Background

Hepatitis C

Hepatitis C is a potentially life-threatening liver infection caused by the hepatitis C virus. Hepatitis C is not vaccine-preventable, and it is the most common chronic bloodborne pathogen in the US.^[8] Most cases of acute hepatitis C are asymptomatic, are not diagnosed, and last for approximately six months.



Progression to chronic hepatitis C occurs in about 80 to 85% of adults with acute hepatitis C.^[9] Despite new therapies that can cure more than 95% of persons with chronic hepatitis C, only about half of those living with hepatitis C are aware of their status, and most have not received recommended care and treatment. Without diagnosis and treatment, people living with hepatitis C may develop liver cancer, cirrhosis, or other life-threatening conditions and may unknowingly transmit the virus to others. Strategies for the elimination of hepatitis C include one-time testing of all adults 18 years and older, testing of all pregnant Tennesseans during each pregnancy, ongoing testing of adults at increased risk for hepatitis C, and treatment of any individual living with hepatitis C aged three years and older.^{[10][11]}

According to the CDC, in 2023, Tennessee had the fifth-highest rate of acute hepatitis C in the United States.^[12] Five of the nine states with the highest rates of hepatitis C were found in the southeastern United States.^[13] In 2023, the estimated total prevalence of acute hepatitis C in TN (5.1 cases per 100,000 persons) was 3.4 times higher than the prevalence of hepatitis C in the US (1.5 cases per 100,000 persons).^[12,14]

Hepatitis Background

Acute hepatitis C refers to the initial six months following infection with the hepatitis C virus. Most individuals experience few or no symptoms, though some may develop signs of liver inflammation, such as fatigue or jaundice. While a minority of people clear the infection spontaneously, most progress to chronic hepatitis C, which can lead to long-term liver disease.^[15]

In January 2020, the Council of State and Territorial Epidemiologists (CSTE) revised the case definitions for acute and chronic hepatitis C, leading to fewer cases being classified as probable. In April 2020, the CDC updated its hepatitis C testing guidelines to recommend one-time testing for all adults (18+), testing during each pregnancy, and regular testing for individuals with risk factors such as injection drug use.^[16]

3

In 2023, TN ranked 3rd in the rate of newly reported **chronic hepatitis C** cases nationally at 71.5 cases per 100k population.^[17]

5

In 2023, TN ranked 5th in reported cases of **acute hepatitis C** nationally at 5.1 cases per 100k population.^[18]

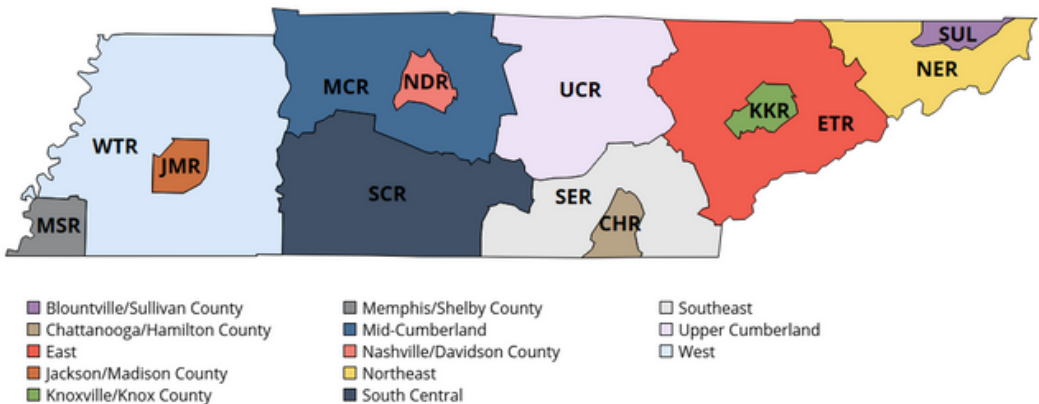
6

In 2023, TN ranked 6th nationally for the rate of **hepatitis C-associated deaths** at 4.4 deaths per 100k population.^[19]

Tennessee Background

TN is a southern state that borders eight other states. TDH's Central Office is in Nashville (Davidson County), and it partners with all of the state's 95 counties, which are divided into 13 public health regions. Six of the most populous counties operate as stand-alone metropolitan public health regions, and the remaining 89 counties are divided into seven rural public health regions. The rural public health regions are an extension of TDH, whereas TDH partners with the metropolitan public health regions through contractual agreements. The diversity of Tennessee's communities should not be overlooked: rural communities differ significantly from urban and suburban communities, not just in population size but also in demographics and culture.^[20]

Tennessee Public Health Regions



Population

TN was home to 7,227,750 people in 2024. The population in TN increased by 299,846 people (4.3%) between 2020 and 2024.^[14] The most populous areas include: Memphis/Shelby County, Nashville/Davidson County, and the Mid-Cumberland Public Health Region.^[20]

Age

The median age of TN residents in 2024 was 39 years, equivalent to that of the US median age (39.1 years).^[21,22] The age distribution in TN roughly reflected that of the US population overall.

Hepatitis Background

This report presents surveillance data for conditions managed by the Viral Hepatitis Program at the Tennessee Department of Health, focusing on acute and chronic hepatitis B and C, including hepatitis C in pregnancy and perinatally.

Transmission

There are several known transmission risks for the hepatitis B virus (HBV) and the hepatitis C virus (HCV), many of which are similar between the two conditions. The viruses are transmitted when blood containing the virus enters the bloodstream of susceptible individuals. Common transmission pathways include:



Past or present
injection drug use



Sharing drug
preparation
equipment



Use of unregulated
tattooing equipment



Having a birthing
parent living with
hepatitis B or C



Blood transfusions
or organ transplants
prior to 1992



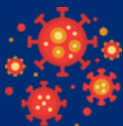
Sex with a person
living with
hepatitis B or C



Needle sticks in
healthcare settings



Sharing personal or
household items that
could come into
contact with blood

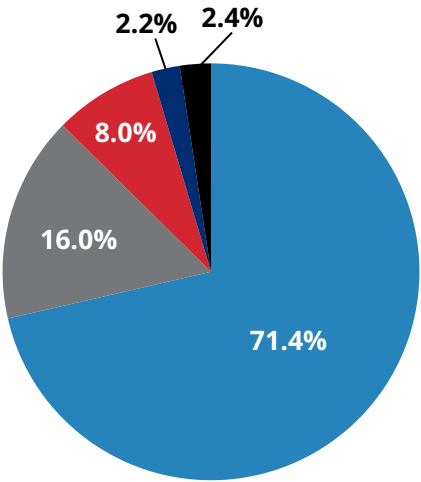


Infection control
breaches in health
care settings

Tennessee Background

Race and Ethnicity

In 2024, Tennessee’s population was 71.4% White. Black or African American residents constituted 16.0%, Hispanic/Latino residents 8.0%, and Asian residents 2.2%. American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, and multiracial residents comprised the remaining 2.4%.^[23]

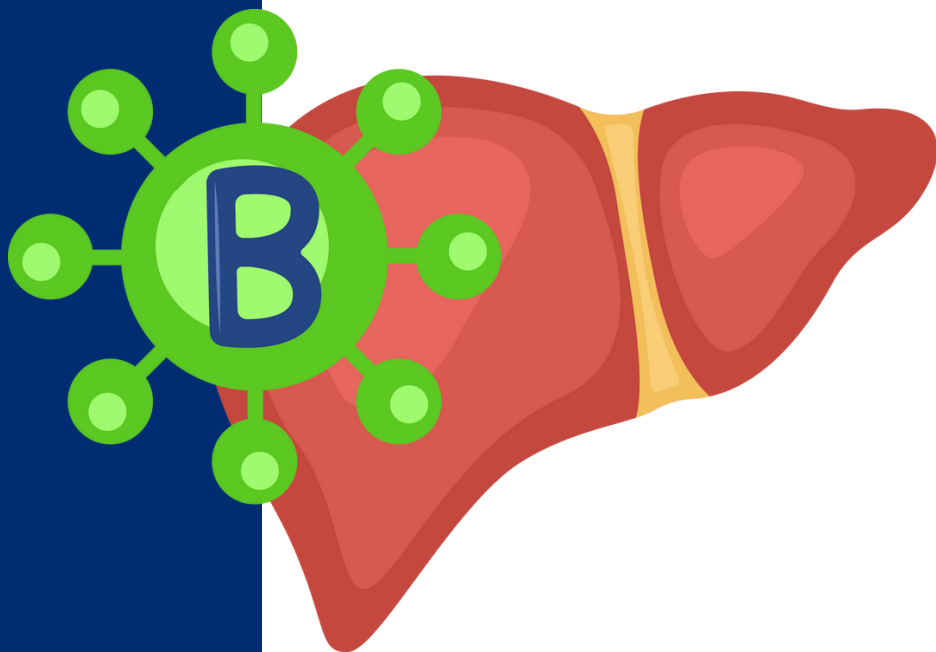


■ Asian ■ Black or African American ■ Hispanic/Latino ■ Other ■ White

Income and Federal Poverty Level

The median household income in TN in 2023 was \$67,631 compared to the US median income of \$77,719.^[24,25] In 2023, 14.0% of TN’s population fell below the federal poverty level, a higher proportion than the US average of 12.5%.^[26,27]

There were noticeable racial and ethnic disparities in household income in TN. In 2023, Asian and White households had median incomes of \$101,642 and \$72,327, respectively, while Black or African American and Hispanic/Latino households had median incomes of \$50,060 and \$63,574, respectively.^[28]



Hepatitis B in TN

Key Findings



Between 2022 and 2024, hepatitis B cases decreased by 20%.



In 2024, the rate of chronic hepatitis B among Asians was 4.5 times higher than that of Whites.



From 2020 to 2024, males consistently have higher rates of hepatitis B compared to females.



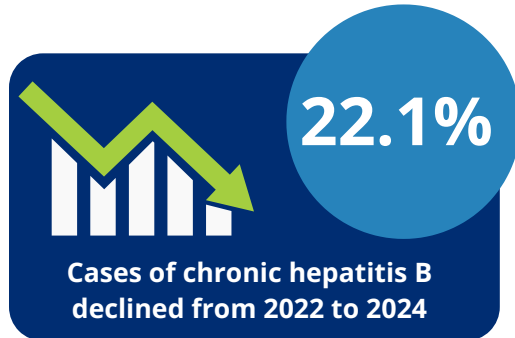
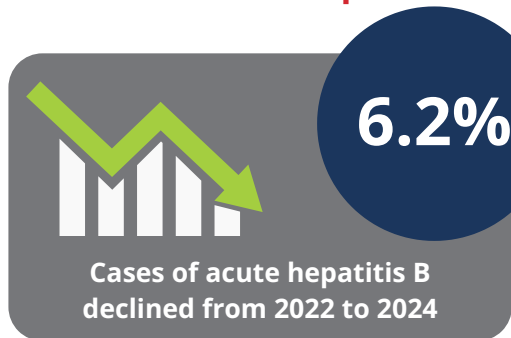
Sexual contact was the leading risk factor for acute hepatitis B cases.



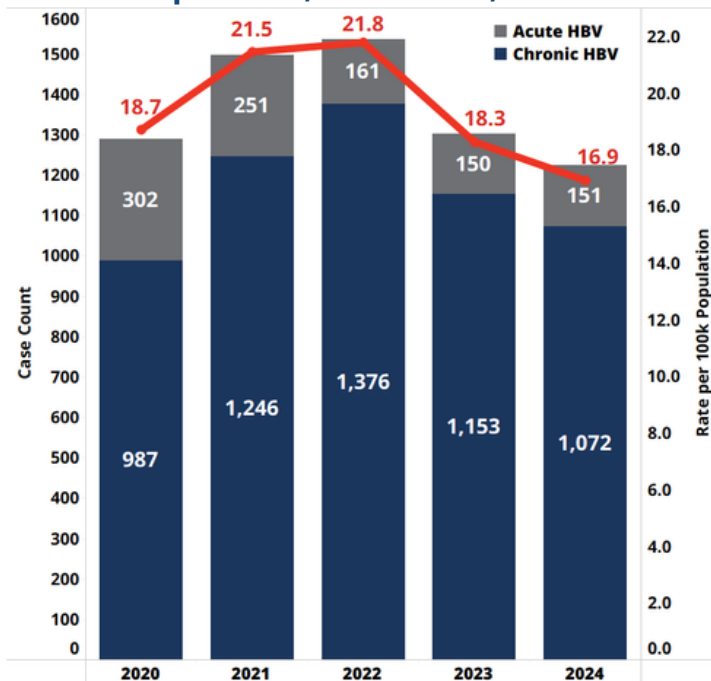
The rate of hepatitis B was over 15 times higher in the incarcerated population than in the general population.

Hepatitis B: Statewide

Acute & Chronic Hepatitis B - Statewide



Count and Rate (per 100k) of Acute and Chronic Hepatitis B, Tennessee, 2020-2024



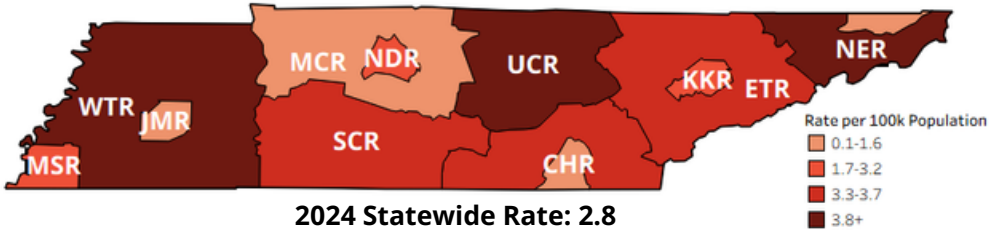
Between 2022 and 2024, hepatitis B cases decreased by 20.4%.

From 2022 to 2024, the rate of hepatitis B has dropped from 21.8 to 16.9 cases per 100,000 people. Most of this decline was attributed to a decrease in the number of long-term (chronic) hepatitis B cases in Tennessee, which dropped from 1,376 to 1,072 cases. The number of short-term (acute) hepatitis B cases also decreased, from 161 to 151.

Acute Hepatitis B: Region

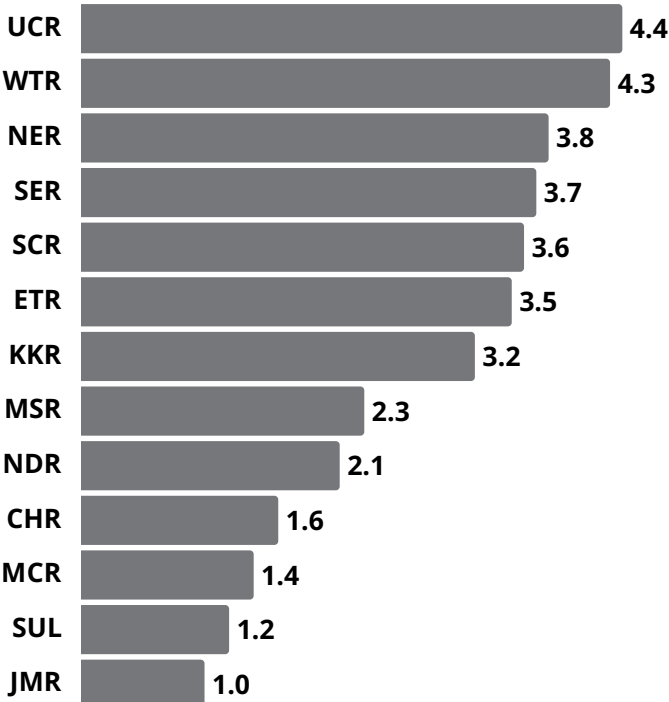
Acute Hepatitis B - Region

Rate (per 100k) of Acute Hepatitis B, by Region, in Non-Incarcerated Tennesseans, 2024



In 2024, the rate of acute hepatitis B among non-incarcerated persons ranged from 1.0 in the Jackson/Madison County Region to 4.4 cases per 100,000 population in the Upper Cumberland Region. In 2024, seven regions had a rate higher than the statewide average of 2.8 cases per 100,000 population.

Regional Rates of Acute Hepatitis B, in Non-Incarcerated Tennesseans, 2024



In 2024, Upper Cumberland and West regions had the highest rates of acute hepatitis B cases among non-incarcerated persons.

Acute Hepatitis B: Region

Acute Hepatitis B - Region Continued

Percent Change in the Rate (per 100k) of Acute Hepatitis B, by Region, in Non-Incarcerated Tennesseans, 2020–2024

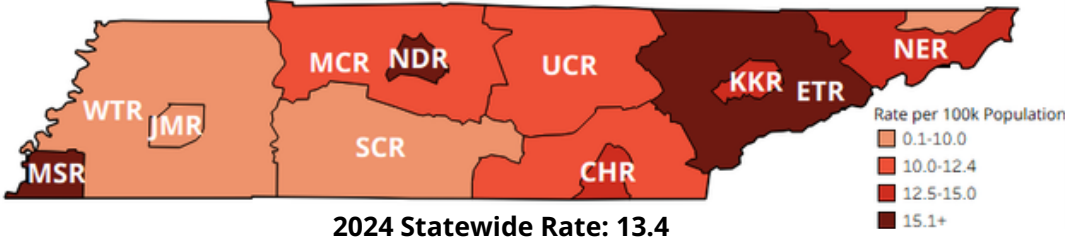
Region	2020–2024	2020 Rate	2024 Rate	2020–2024 % Change
CHR		0.8	1.6	91% ↑
ETR		7.5	3.5	-54% ↓
JMR		-	1.0	-
KKR		5.5	3.2	-42% ↓
MCR		2.5	1.4	-46% ↓
MSR		4.5	2.3	-49% ↓
NDR		4.3	2.1	-52% ↓
NER		5.3	3.8	-29% ↓
SCR		4.4	3.6	-18% ↓
SER		7.1	3.7	-48% ↓
SUL		6.9	1.2	-82% ↓
UCR		7.2	4.4	-38% ↓
WTR		4.3	4.3	0%

Red indicates an increase in acute hepatitis B, which is also indicated by an up arrow. Green indicates a decrease in acute hepatitis B, which is also indicated by a down arrow. Percent Change Calculation = (2024 rate-2020 rate)/2020 rate*100

Chronic Hepatitis B: Region

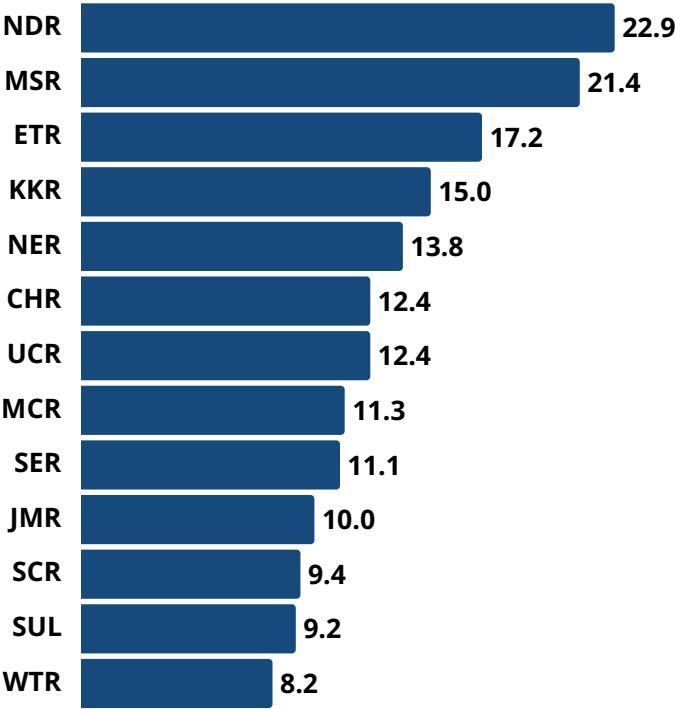
Chronic Hepatitis B - Region

Rate (per 100k) of Chronic Hepatitis B, by Region, in Non-Incarcerated Tennesseans, 2024



In 2024, the rate of chronic hepatitis B among non-incarcerated persons ranged from 8.2 cases per 100,000 population in the West Region to 22.9 in the Nashville/Davidson County Region. In 2024, five regions had a rate higher than the statewide average of 13.4 cases per 100,000 population.

Regional Rates of Chronic Hepatitis B, in Non-Incarcerated Tennesseans, 2024

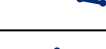


In 2024, Nashville/Davidson and Memphis/Shelby regions had the highest rates of chronic hepatitis B cases among non-incarcerated persons.

Chronic Hepatitis B: Region

Chronic Hepatitis B - Region Continued

Percent Change in the Rate (per 100k) of Chronic Hepatitis B, by Region, in Non-Incarcerated Tennesseans, 2020-2024

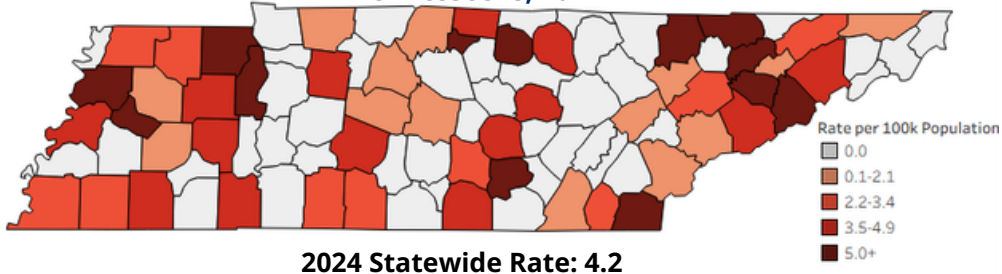
Region	2020-2024	2020 Rate	2024 Rate	2020-2024 % Change
CHR		7.3	12.4	71% ↑
ETR		17.6	17.2	-2% ↓
JMR		6.1	10.0	63% ↑
KKR		16.6	15.0	-10% ↓
MCR		11.5	11.3	-1% ↓
MSR		17.6	21.4	21% ↑
NDR		17.9	22.9	28% ↑
NER		10.4	13.8	32% ↑
SCR		9.1	9.4	4% ↑
SER		9.2	11.1	20% ↑
SUL		15.1	9.2	-39% ↓
UCR		12.5	12.4	-1% ↓
WTR		8.7	8.2	-6% ↓

Red indicates an increase in acute hepatitis B, which is also indicated by an up arrow.
Green indicates a decrease in acute hepatitis B, which is also indicated by a down arrow.
Percent Change Calculation = (2024 rate-2020 rate)/2020 rate*100

Acute Hepatitis B: County

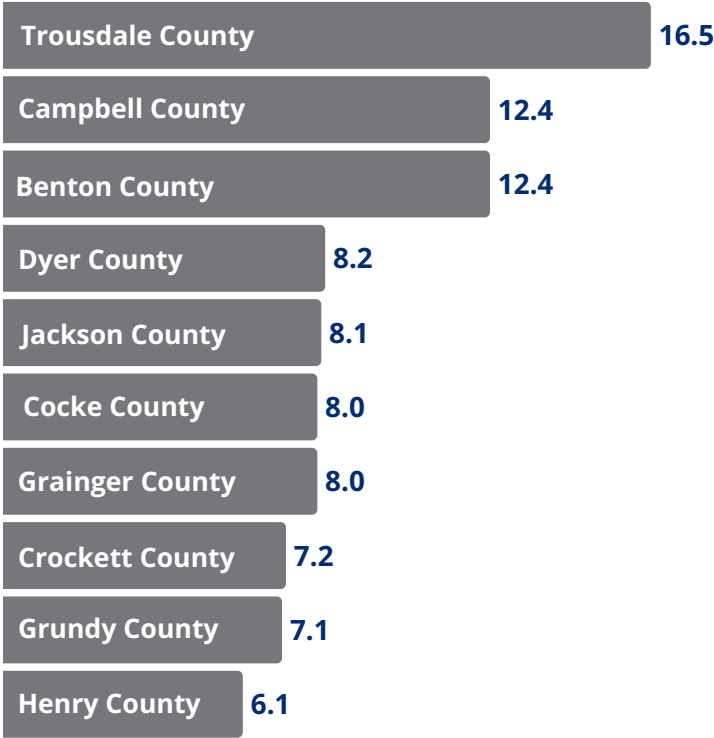
Acute Hepatitis B - County

Rate (per 100k) of Acute Hepatitis B, by County, in Non-Incarcerated Tennesseans, 2024



In 2024, acute hepatitis B cases among the general (non-incarcerated) population were reported in 51 counties in TN. Sixteen (16.8%) counties had acute hepatitis B rates higher than the statewide rate of 4.2 cases per 100,000 population.

Counties with the Highest Rates of Acute Hepatitis B, in Non-Incarcerated Tennesseans, 2024

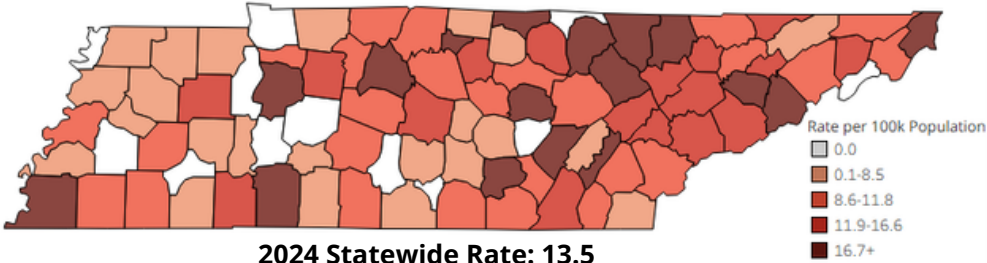


In 2024, 16.8% of counties exceeded the state average for acute hepatitis B among non-incarcerated persons. Rates were highest in Trousdale, Campbell, and Benton counties.

Chronic Hepatitis B: County

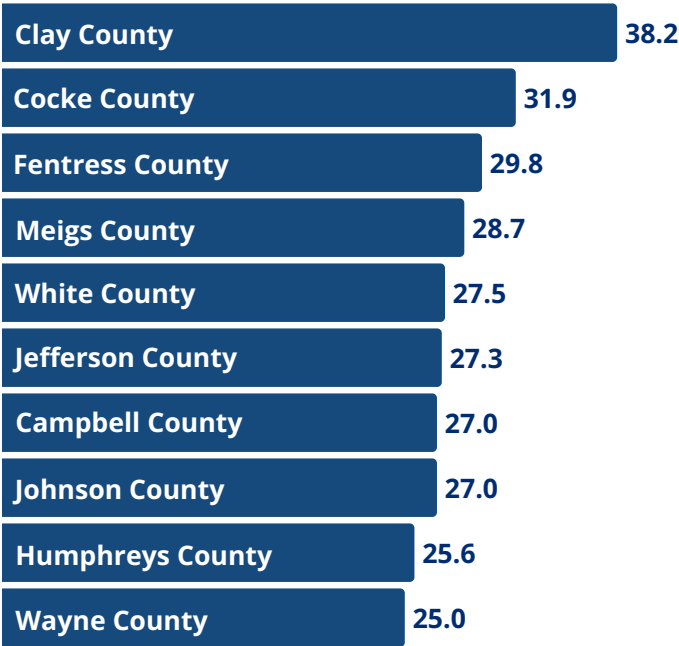
Chronic Hepatitis B - County

Rate (per 100K) of Chronic Hepatitis B, by County, in Non-Incarcerated Tennesseans, 2024



In 2024, chronic hepatitis B cases among the general (non-incarcerated) population were reported in 83 counties in TN. Twenty-nine counties (30.5%) had chronic hepatitis B rates higher than the statewide chronic hepatitis B rate of 13.5 cases per 100,000 population.

Counties with the Highest Rates of Chronic Hepatitis B, in Non-Incarcerated Tennesseans, 2024



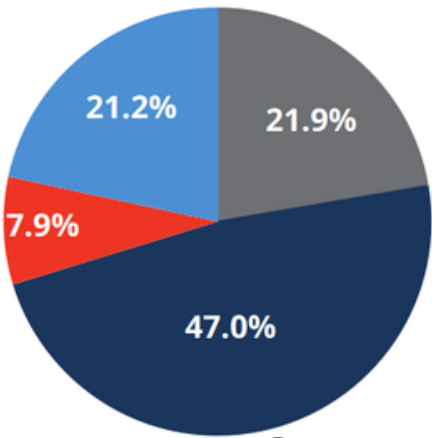
In 2024, 30.5% of counties exceeded the state average for chronic hepatitis B among non-incarcerated persons. Rates were highest in Clay, Cocke, and Fentress counties.

Hepatitis B: Generations

Acute Hepatitis B - Age by Generations

Rate of Acute Hepatitis B in Tennessee, by Generation 2020–2024

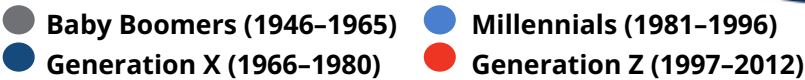
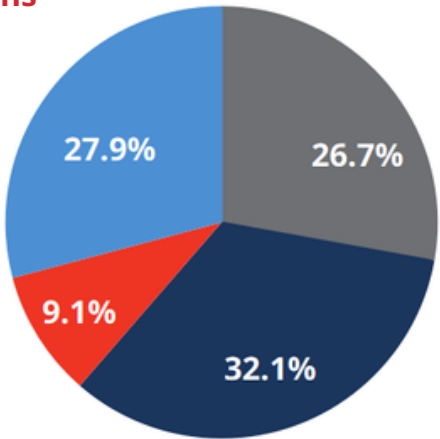
In 2024, most acute hepatitis B cases occurred among Generation X (47.0%), followed by Baby Boomers (21.9%) and Millennials (21.2%). Generation Z accounted for only 7.9% of cases. This age distribution has remained relatively consistent since 2020. Generation Alpha was excluded from analysis due to low case counts.



Chronic Hepatitis B - Age by Generations

Rate of Chronic Hepatitis B in Tennessee, by Generation 2020–2024

In 2024, most chronic hepatitis B cases occurred among Generation X (32.1%), followed by Millennials (27.9%) and Baby Boomers (26.7%). Generation Z accounted for only 9.1% of cases. This age distribution has remained relatively consistent since 2020. Generation Alpha was excluded from analysis due to low case counts.

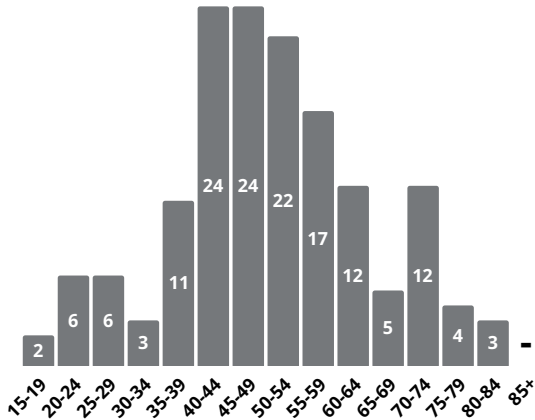


In 2024, both acute and chronic hepatitis B cases were highest among Generation X, followed by Baby Boomers and Millennials.

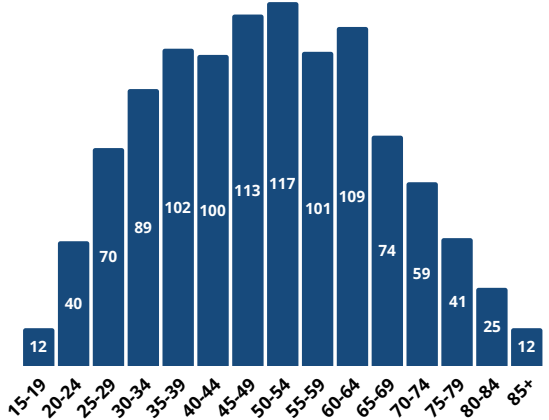
Hepatitis B: Age

Chronic and Acute Hepatitis B - Age groups

Age Groups of Acute Hepatitis B Cases, Tennessee, 2024



Age Groups of Chronic Hepatitis B Cases, Tennessee, 2024



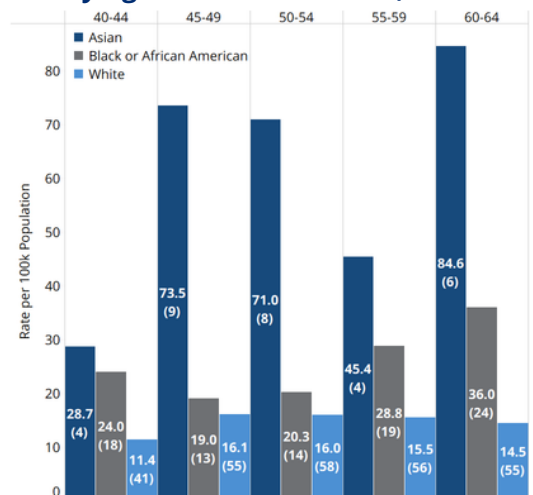
In 2024, most cases of acute hepatitis B occurred in people aged 40 to 64 (65.6%), showing that middle-aged adults were the most affected group. People aged 70 to 74 (7.9%) also had a higher number of cases compared to other age groups. The average age of acute hepatitis B cases was 50.1 years.

Chronic hepatitis B was more evenly spread among people aged 25 to 74 (87.0%). This means that adults across a wide age range were affected, though there were fewer cases among the youngest and oldest age groups. The average age of chronic hepatitis B cases was 49.6 years.

Age & Race

In 2024, among adults aged 40–64, Asians and Black or African Americans had higher chronic hepatitis B rates than White adults. The largest gap was seen in the 60–64 age group: Asians had 84.6 cases per 100,000 (5.8 times the White rate of 14.5), and Black or African Americans had 36.0 (2.5 times the White rate), despite having fewer cases.

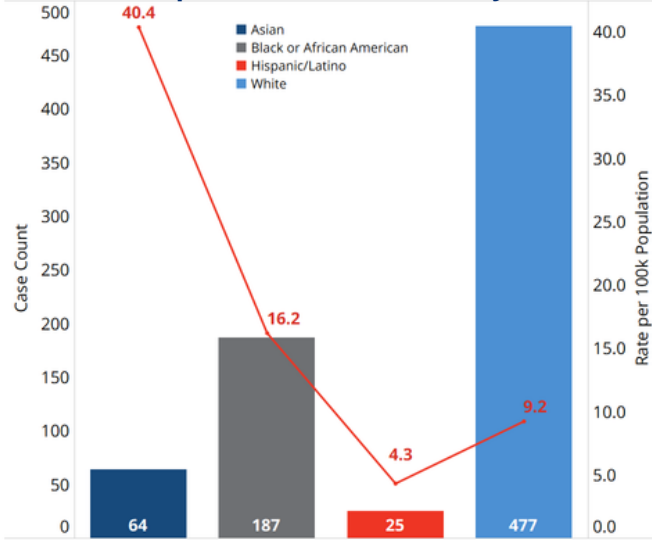
Rates and (Cases) of Chronic Hepatitis B, by Age & Race Tennessee, 2024



Chronic Hepatitis B: Race & Ethnicity

Chronic Hepatitis B - Race & Ethnicity

Chronic Hepatitis B Rate (per 100K), Race/Ethnicity, Tennessee, 2020–2024



In 2024, even though they had the third highest number of cases, Asians had the highest rate of chronic hepatitis B, with 40.4 cases per 100,000 people. This rate was 4.4 times higher than the rate for Whites and 2.5 times higher than the rate for Black or African Americans.

2024 Ranking the Rate of Chronic Hepatitis B, by Race/Ethnicity

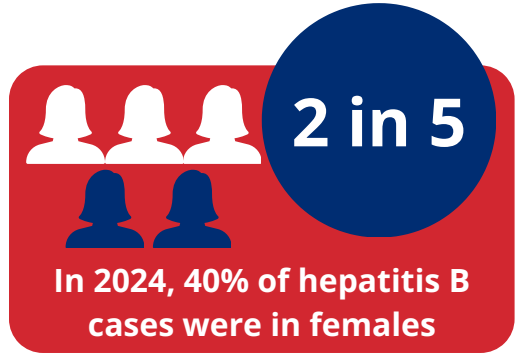
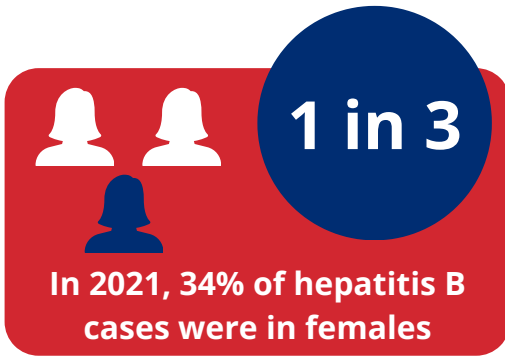
- #1 Asian
- #2 Black or African American
- #3 White
- #4 Hispanic/Latino



In 2024, The rate of chronic hepatitis B among Asians was 4.5 times higher than among Whites.

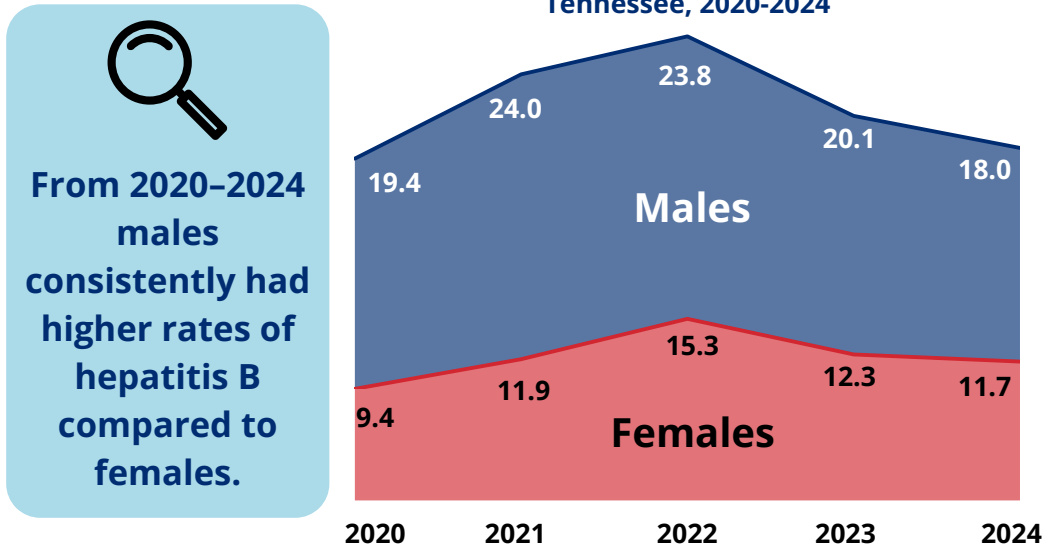
Hepatitis B: Sex

Acute & Chronic Hepatitis B - Sex



From 2020 to 2024, females had lower rates of both chronic and acute hepatitis B compared to males. Although hepatitis B rates remained higher among males, female rates rose in recent years, reducing the difference between male and female rates.

Hepatitis B Rate (per 100K), by Sex, Tennessee, 2020-2024



The difference in trends among females and males held true for both acute and chronic hepatitis B cases. The largest increase for females came in 2022, when the rate of chronic hepatitis B in females increased 28.9% (11.9 to 15.3 cases per 100k population).

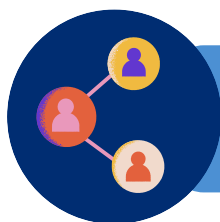
Acute Hepatitis B: Risk

Acute Hepatitis B - Risk Factors

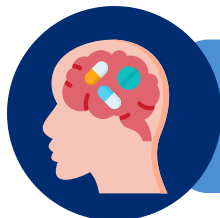
In 2024, sexual contact was the most commonly reported risk factor for acute hepatitis B (25.2%), followed by non-injection drug use (19.2%), injection drug use (16.6%), and incarceration (14.6%).

Note: Some people with acute hepatitis B reported other risk factors, but there were too few cases to analyze reliably. Associated risk information is based on self-reported data, which may result in some incomplete or biased reporting.

In 2024, the following risk factors for acute hepatitis B cases are:



Sexual Contact
25.2%



Non-Injection Drug Use
19.2%



Injection Drug Use
16.6%

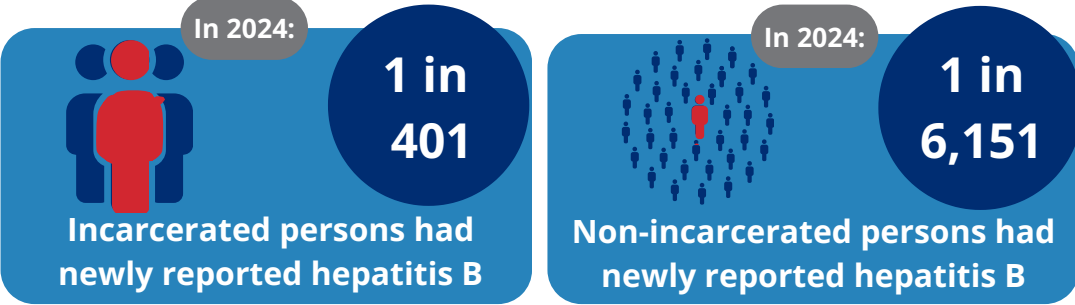


Incarceration
14.6%

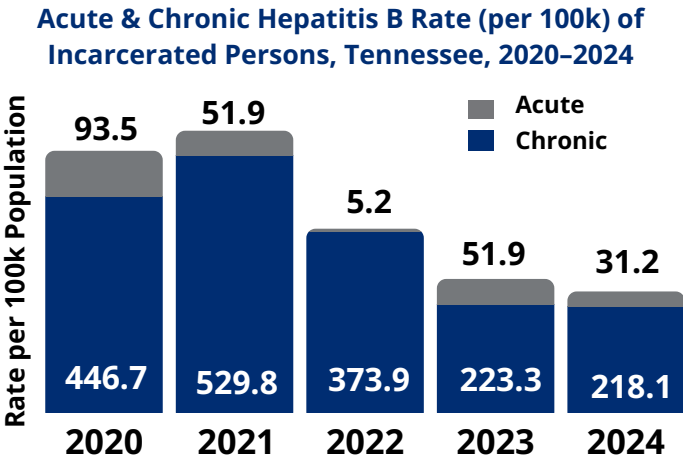
Hepatitis B: Incarceration

Incarceration

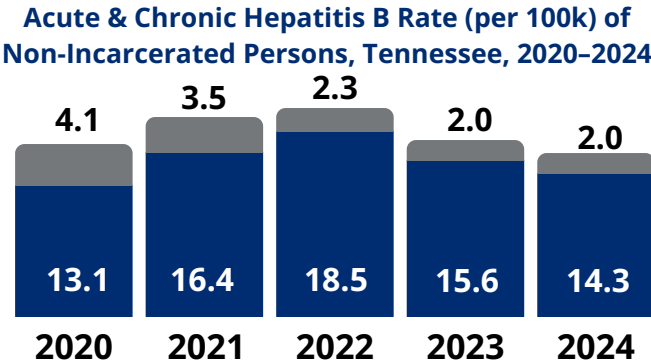
Hepatitis B disproportionately impacts incarcerated populations with rates significantly higher than those observed in the general population.



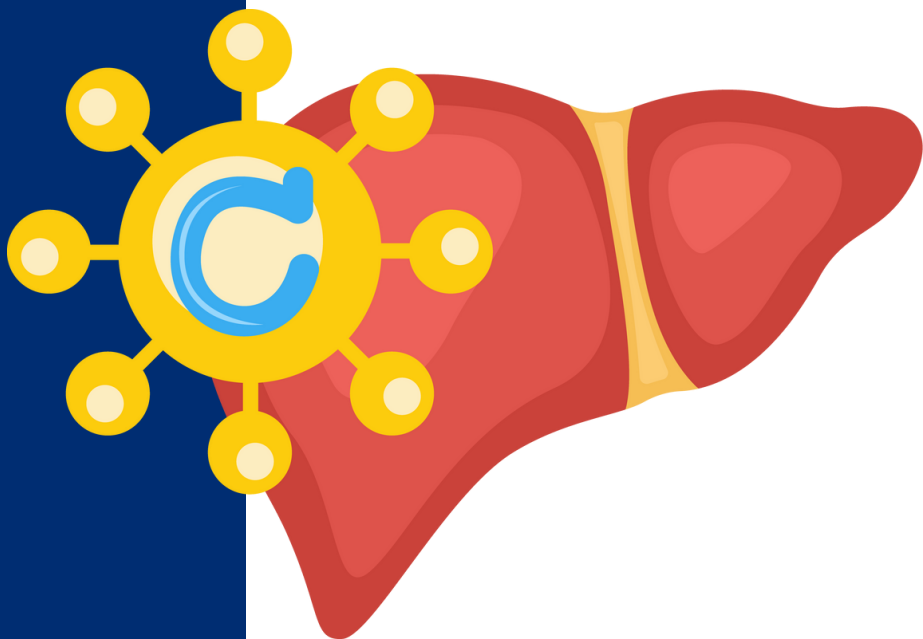
Hepatitis B among incarcerated people has declined over the last four years. Chronic hepatitis B has declined steadily, possibly from improved prevention/care efforts. Acute hepatitis B cases varied annually, suggesting that new infections continued to occur.



 **The rate of hepatitis B was over 15 times higher in incarcerated population than in the general population.**



For the past five years, the rate of hepatitis B in the non-incarcerated population was much lower than in the incarcerated population. In 2024, the rate of hepatitis B was almost 15 times higher among incarcerated people.



Hepatitis C in TN

Key Findings



In 2024, the overall rate of hepatitis C hit a five-year low of 87.3 cases per 100,000 population.



In 2024, White Tennesseans had the highest rates of chronic hepatitis C.



The rate of chronic hepatitis C in both males and females was almost half what it was in 2021.



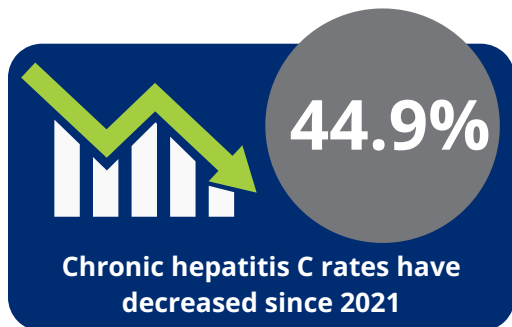
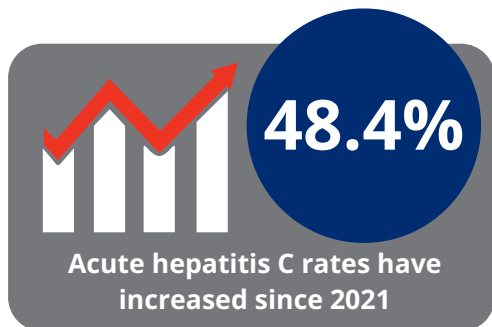
Incarceration is the leading risk factor for acute hepatitis C.



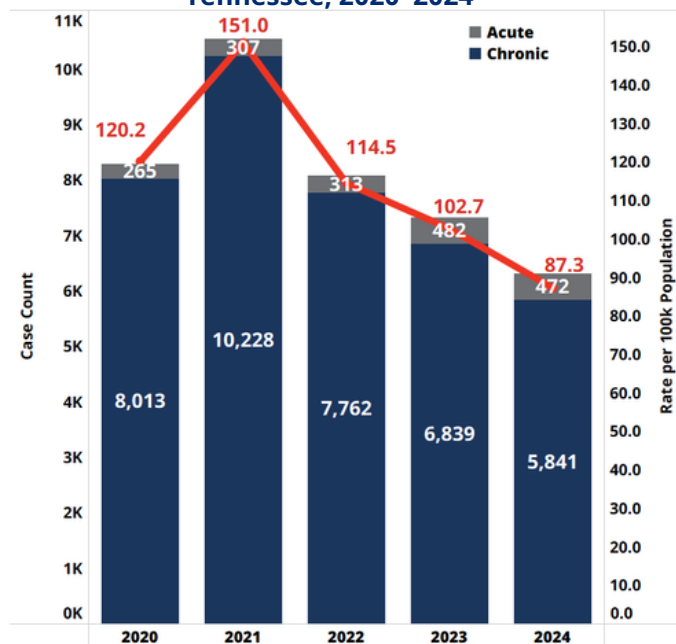
The rate of acute hepatitis C was more than 58 times higher in the incarcerated population than in the general population.

Hepatitis C: Statewide

Acute & Chronic Hepatitis C - Statewide



Rate (per 100K) of Acute and Chronic Hepatitis C, Tennessee, 2020–2024



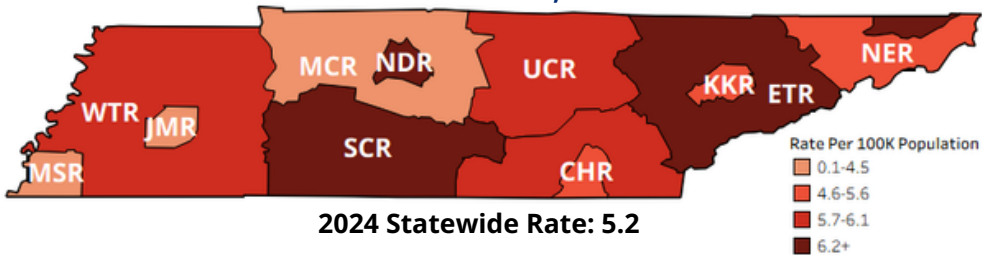
In 2024, the overall rate of hepatitis C hit a five-year low of 87.3 cases per 100,000 population.

Since 2021, the overall rate of hepatitis C has declined by 42.2% from 151.0 to 87.3 cases per 100,000 population. In 2024, cases of chronic hepatitis C dropped to a five-year low of 5,841 cases. However, acute hepatitis C cases stayed close to their five-year high, with 472 cases, likely due to improved reporting to TDH and subsequent acute case identification.

Acute Hepatitis C: Region

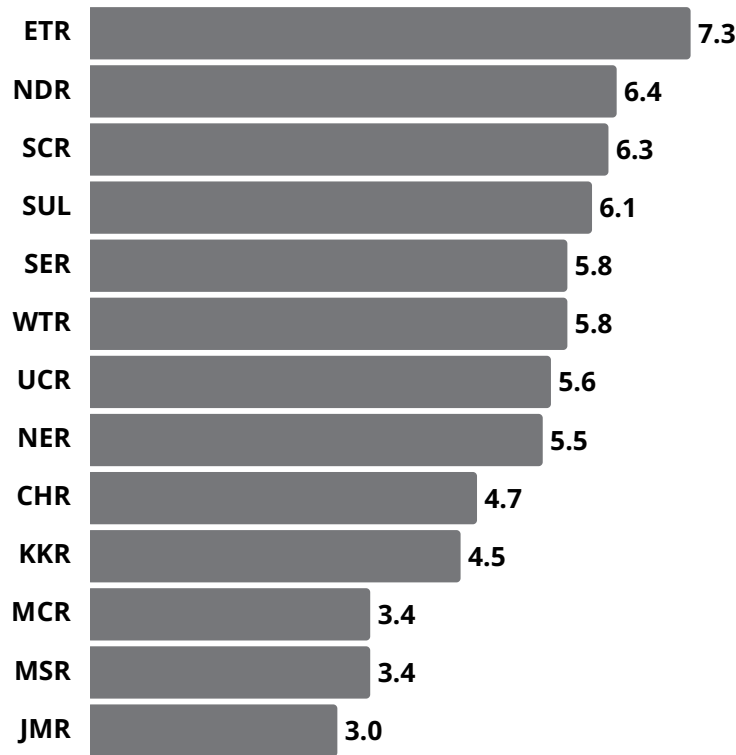
Acute Hepatitis C - Region

Rate (per 100k) of Acute Hepatitis C, by Region, in Non-Incarcerated Tennesseans, 2024



In 2024, the rate of acute hepatitis C among the general (non-incarcerated) population was highest in East, Nashville/Davidson County, South Central, and Sullivan County/Blountville regions. Rates were the lowest in Jackson/Madison, Memphis/Shelby, Mid-Cumberland, and Knoxville regions. Eight regions had a rate higher than the statewide average (5.2 cases per 100,000 population).

Regional Rates of Acute Hepatitis C, in Non-Incarcerated Tennesseans, 2024



In 2024, East, Nashville/Davidson, and South Central regions had the highest rates of acute hepatitis C cases among non-incarcerated persons.

Acute Hepatitis C: Region

Acute Hepatitis C - Region Continued

Percent Change in the rate (per 100k) of Acute Hepatitis C, by Region, in Non-Incarcerated Tennesseans, 2020–2024

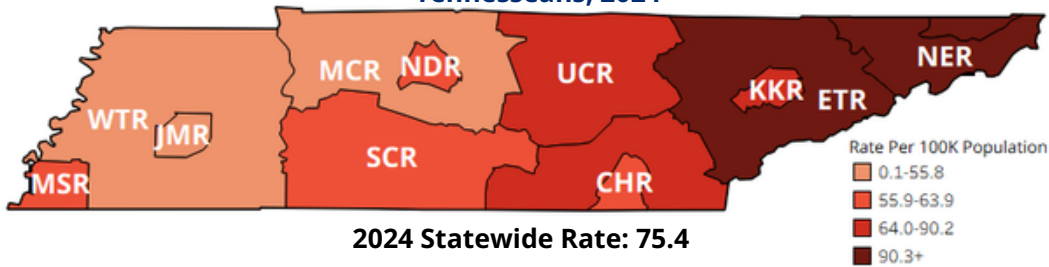
Region	2020–2024	2020 Rate	2024 Rate	2020–2024 % Change
CHR		2.7	4.7	73% ↑
ETR		10.3	7.3	-29% ↓
JMR		3.1	3.0	-2% ↓
KKR		4.6	4.5	-2% ↓
MCR		1.1	3.4	204% ↑
MSR		2.7	3.4	23% ↑
NDR		3.2	6.4	103% ↓
NER		5.9	5.5	-8% ↓
SCR		5.3	6.3	20% ↑
SER		6.4	5.8	-9% ↓
SUL		2.5	6.2	144% ↑
UCR		6.1	5.6	-8% ↓
WTR		4.1	5.8	41% ↑

Red indicates an increase in acute hepatitis B, which is also indicated by an up arrow.
Green indicates a decrease in acute hepatitis B, which is also indicated by a down arrow.
Percent Change Calculation = (2024 rate-2020 rate)/2020 rate*100

Chronic Hepatitis C: Region

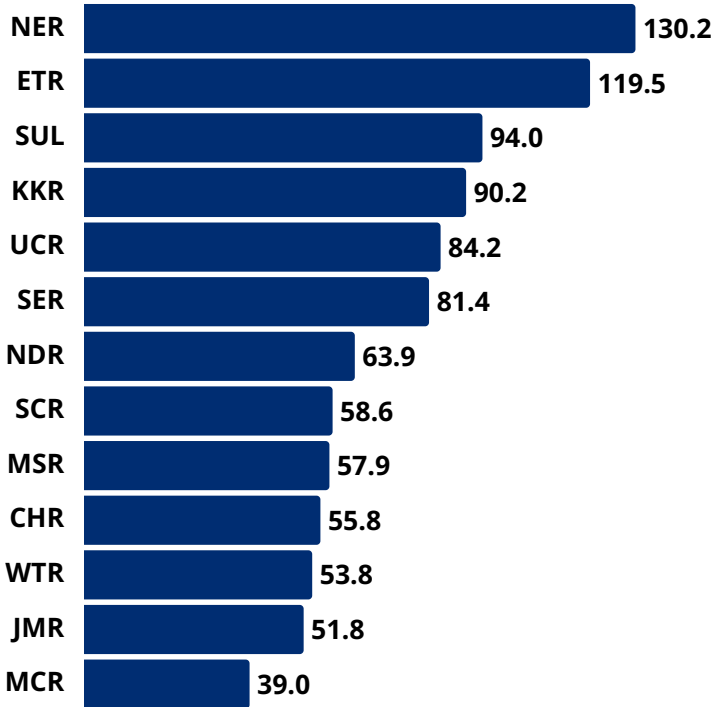
Chronic Hepatitis C - Region

Rate (per 100k) of Chronic Hepatitis C, by Region, in Non-Incarcerated Tennesseans, 2024



In 2024, the rate of chronic hepatitis C among the general (non-incarcerated) population was highest in the Northeast, East, Sullivan County/Blountville, and Knoxville regions. Rates were the lowest in the Mid-Cumberland, Jackson/Madison, West, and Chattanooga/Hamilton regions. Six regions had a rate higher than the statewide average (75.4 cases per 100,000 population).

Regional Rates of Chronic Hepatitis C, in Non-Incarcerated Tennesseans, 2024



In 2024, the Northeast, East, and Sullivan County/Blountville regions had the highest rates of chronic hepatitis C cases among non-incarcerated persons.

Chronic Hepatitis C: Region

Chronic Hepatitis C - Region Continued

Percent Change in the rate (per 100k) of Chronic Hepatitis C, by Region, in Non-Incarcerated Tennesseans, 2020–2024

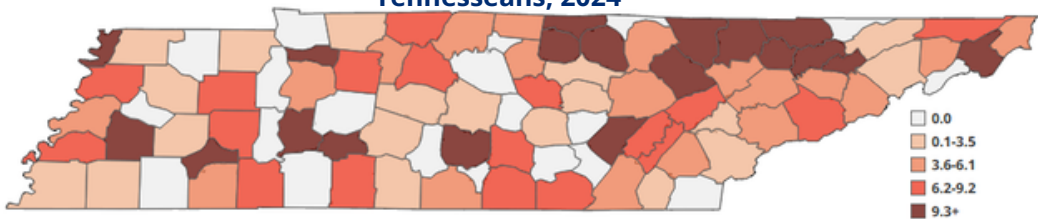
Region	2020–24	2020–21	2023–24	2020–24 % Change
CHR		105.2	129.0	-47% ↓
ETR		160.1	196.0	-25% ↓
JMR		85.4	99.2	-39% ↓
KKR		154.8	203.2	-42% ↓
MCR		71.5	78.4	-45% ↓
MSR		84.6	106.0	-32% ↓
NDR		120.7	117.3	-47% ↓
NER		128.9	163.0	1% ↑
SCR		67.7	115.9	-13% ↓
SER		117.5	139.2	-31% ↓
SUL		154.3	156.4	-39% ↓
UCR		124.9	125.9	-33% ↓
WTR		79.0	116.0	-32% ↓

Red indicates an increase in acute hepatitis B, which is also indicated by an up arrow. Green indicates a decrease in acute hepatitis B, which is also indicated by a down arrow. Percent Change Calculation = (2024 rate-2020 rate)/2020 rate*100

Acute Hepatitis C: County

Acute Hepatitis C - County

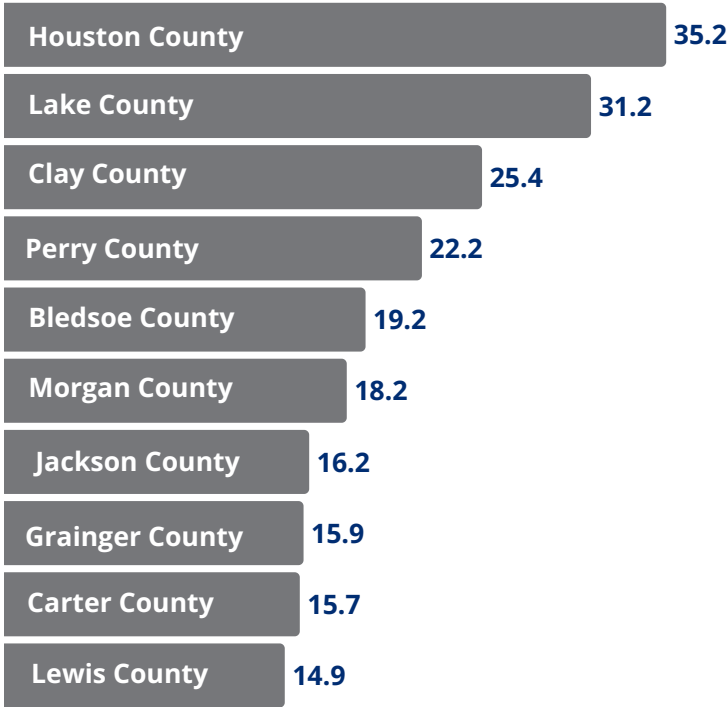
Rate (per 100k) of Acute Hepatitis C, by County, in Non-Incarcerated Tennesseans, 2024



2024 Statewide Rate: 7.9

In 2024, acute hepatitis C cases among the general (non-incarcerated) population were reported in 75 counties in TN. Twenty-eight counties (29.5%) had acute hepatitis C rates higher than the statewide rate (7.9 cases per 100,000 population).

Counties with the Highest Rates of Acute Hepatitis C, in Non-Incarcerated Tennesseans, 2024

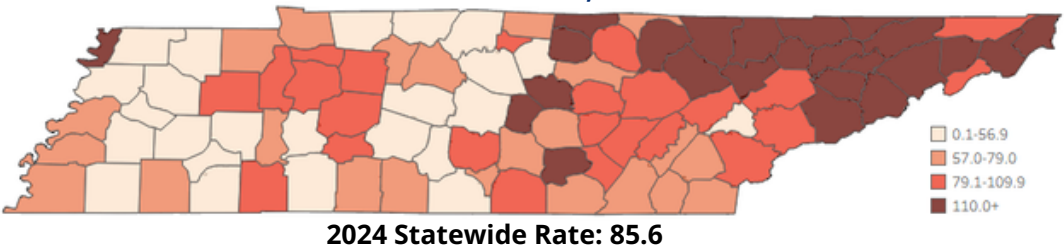


In 2024, 29.5% of counties exceeded the state average for acute hepatitis C among non-incarcerated persons. Rates were highest in Houston, Lake, and Clay counties.

Chronic Hepatitis C: County

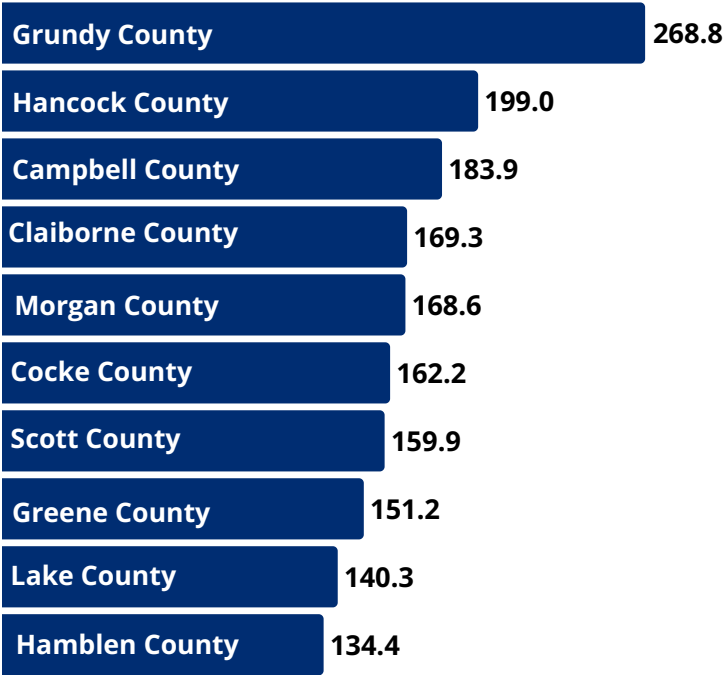
Chronic Hepatitis C - County

Rate (per 100k) of Chronic Hepatitis C, by County, in Non-Incarcerated Tennesseans, 2024



In 2024, chronic hepatitis C cases among the general (non-incarcerated) population were reported in all 95 counties in TN. Thirty counties (31.6%) had chronic hepatitis C rates higher than the statewide rate (85.6 cases per 100,000 population).

Counties with the Highest Rates of Chronic Hepatitis C, in Non-Incarcerated Tennesseans, 2024



In 2024, 31.6% of counties exceeded the state average for chronic hepatitis C among non-incarcerated persons. Rates were highest in Grundy, Hancock, and Campbell counties.

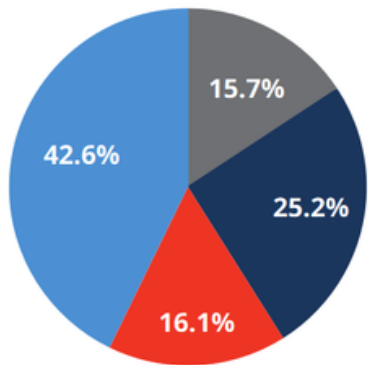
Hepatitis C: Generations

Acute Hepatitis C- Age by generations

Proportion of Acute Hepatitis C in Tennessee, by Generation 2024

In 2024, most acute hepatitis C cases occurred among Millennials (42.6%), followed by Generation X (25.2%) and Generation Z (16.1%). Baby boomers accounted for 15.7% of cases.

Note: Generation Alpha was excluded from analysis due to low case counts.



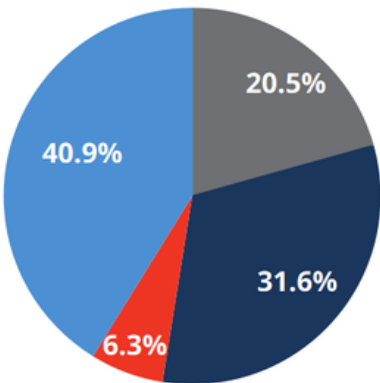
- Baby Boomers (1946–1965)
- Millennials (1981–1996)
- Generation X (1966–1980)
- Generation Z (1997–2012)

Chronic Hepatitis C - Age by generations

Proportion of Chronic Hepatitis C in Tennessee, by Generation 2024

In 2024, most chronic hepatitis C cases occurred among Millennials (40.9%), followed by Generation X (31.6%) and Baby Boomers (20.5%). Generation Z accounted for only 6.3% of cases.

Note: Generation Alpha was excluded from analysis due to low case counts.



- Baby Boomers (1946–1965)
- Millennials (1981–1996)
- Generation X (1966–1980)
- Generation Z (1997–2012)

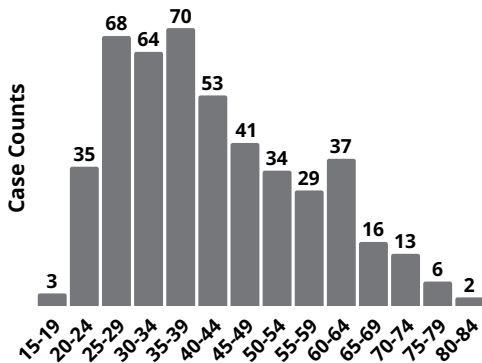


In 2024, hepatitis C cases were highest among Millennials and Generation X.

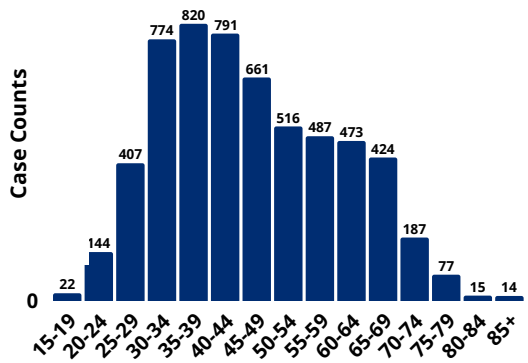
Hepatitis C: Age

Acute and Chronic Hepatitis C - Age groups

Age Groups of Acute Hepatitis C Cases, Tennessee, 2024



Age Groups of Chronic Hepatitis C Cases, Tennessee, 2024

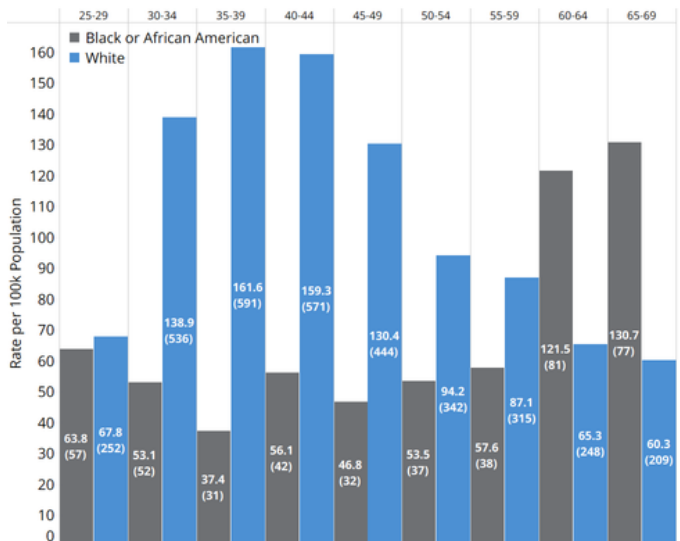


In 2024, most cases of acute hepatitis C happened among people aged 25 to 44 (54.0%), showing that younger middle-aged adults were the most affected group. People aged 45 to 64 (29.8%) had more cases than any other age group. The average age for acute hepatitis C cases was 42 years. Likewise, most cases of chronic hepatitis C were found in people aged 30 to 49 (52.1%). People aged 25 to 29 (9.5%) and 50 to 69 (32.5%) also had a high number of cases compared to other groups. The average age for chronic hepatitis C cases was 45.9 years.

Age & Race

In 2024, among Whites, chronic hepatitis C rates peaked in those aged 35 and 44. Among Black or African Americans, chronic hepatitis C peaked among those aged 60–69. *Note: Some age groups and races were omitted due to low case counts.*

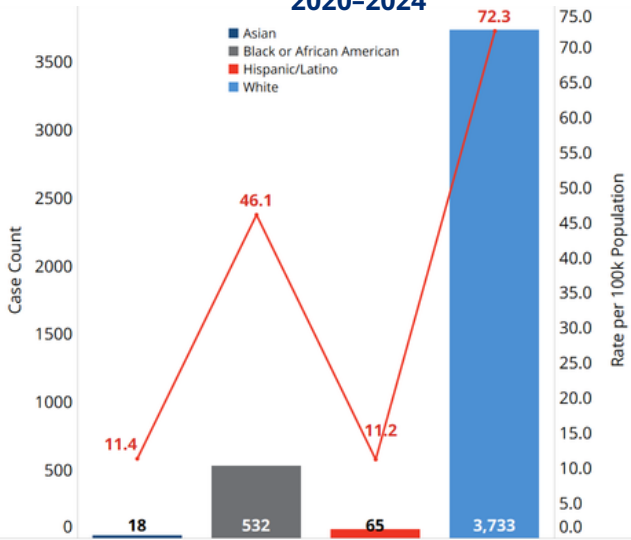
Rates and (Cases) of Chronic Hepatitis C, by Age & Race, Tennessee, 2024



Chronic Hepatitis C: Race & Ethnicity

Chronic Hepatitis C - Race & Ethnicity

Chronic Hepatitis C Counts and Rates (per 100K), by Race/Ethnicity, Tennessee, 2020–2024



In 2024, the rate of chronic hepatitis C was highest among Whites, which was 1.6 times higher than the rate for Black or African Americans in Tennessee.

Note: The number of acute hepatitis C cases was too small to analyze in a meaningful way.

2024 Ranking the Rate of Chronic Hepatitis C, by Race/Ethnicity

- #1 White
- #2 Black or African American
- #3 Asian
- #4 Hispanic/Latino



In 2024, Whites Tennesseans had the highest rates of chronic hepatitis C.

Hepatitis C: Sex

Acute Hepatitis C - Sex

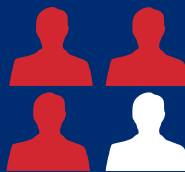
In 2021:



2 in 3

68% of acute hepatitis C cases were in males

In 2024:



3 in 4

76% of acute hepatitis C cases were in males

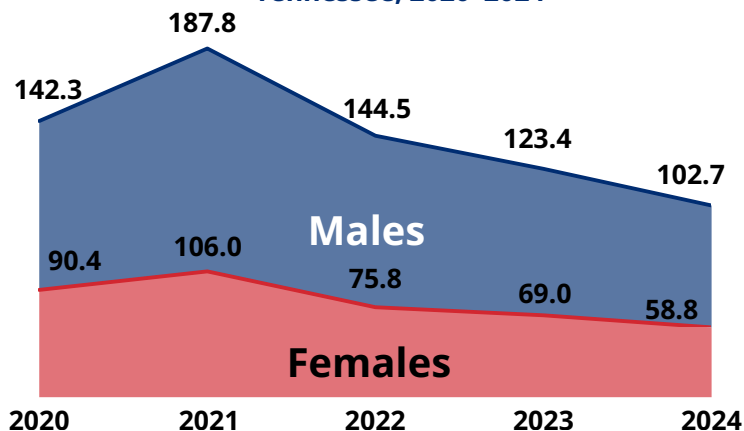
From 2021 to 2024, females consistently had lower rates of acute hepatitis C than males. Over this period, the gap widened, with males accounting for 68% of cases in 2021 and increasing to 76% in 2024.

Chronic Hepatitis C - Sex



In 2024, the rate of chronic hepatitis C in both males and females was almost half what it was in 2021.

Chronic Hepatitis C Rate (per 100K), Sex, Tennessee, 2020–2024



From 2021 to 2024, the number of chronic hepatitis C cases in males has gone down by 45.3%, dropping from 187.8 to 102.7 cases for every 100,000 people. For females, the number has dropped by 44.5%, going from 106.0 to 58.8 cases per 100,000 people.

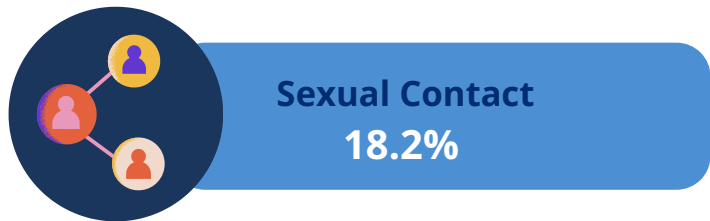
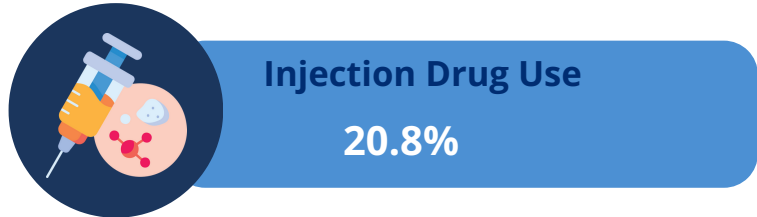
Acute Hepatitis C: Risk

Acute Hepatitis C - Risk Factors

In 2024, incarceration was the most common risk factor for acute hepatitis C, reported in 36.7% of cases. Other common risk factors included injection drug use (20.8%), sexual contact (18.2%), and non-injection drug use (15.3%).

Note: Some people with acute hepatitis C reported other risk factors, but there were too few cases to analyze reliably. Associated risk information is based on self-reported data, which may result in some incomplete or biased reporting.

In 2024, the following risk factors for acute hepatitis C cases were:

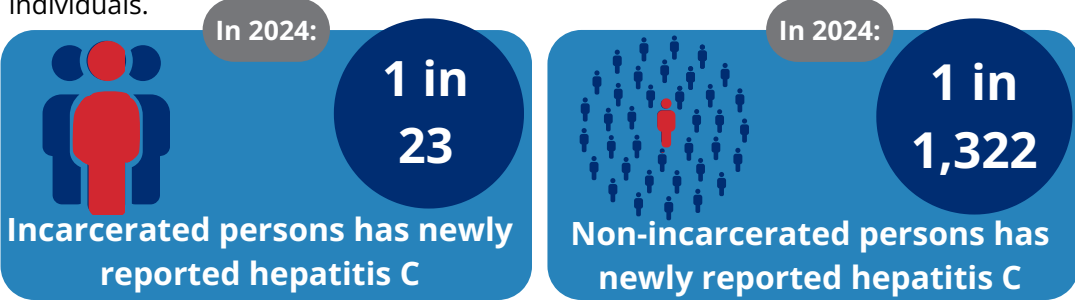


In 2024, incarceration was the leading risk factor for acute hepatitis C cases.

Hepatitis C: Incarceration

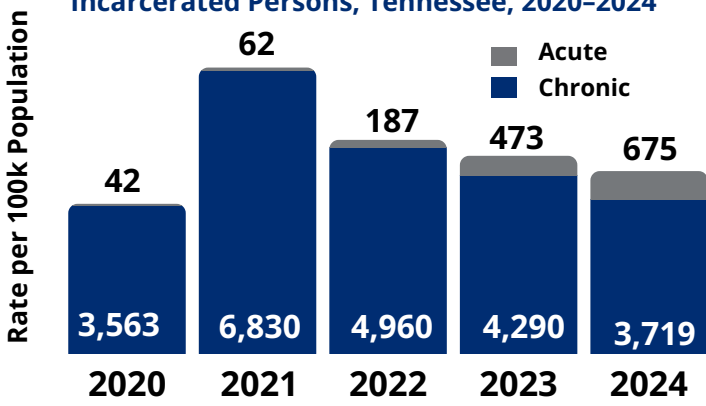
Incarceration

Hepatitis C trends differ sharply by infection type and incarceration status. Acute hepatitis C continues to rise among and disproportionately affects incarcerated individuals.



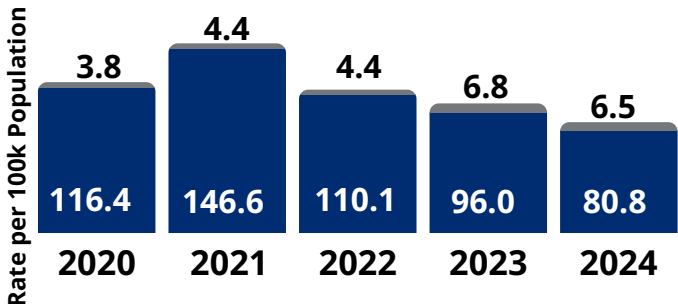
The rate of acute hepatitis C had been increasing over the previous five years and rose by 42.7% from 2023 to 2024. In contrast, chronic hepatitis C had been declining since 2021 and decreased by 13.3% in the past year.

Acute & Chronic Hepatitis C Rate (per 100k) of Incarcerated Persons, Tennessee, 2020–2024



 **The rate of acute hepatitis C was more than 58 times higher in the incarcerated population than in the general population.**

Acute & Chronic Hepatitis C Rate (per 100k) of Non-Incarcerated Persons, Tennessee, 2020–2024



For the last five years, the rate of hepatitis C in the non-incarcerated population was significantly lower than what was reported in the incarcerated population. In 2024, the rate of acute hepatitis C was more than 58 times higher in the incarcerated population.



Hepatitis C in Pregnant Tennesseans

Key Findings



Hepatitis C rates among pregnant Tennesseans fell from 12.7 to 7.4 per 1,000 population between 2020 and 2023.



Tennesseans over the age of 30 have the highest rates of hepatitis C during pregnancy.



Over 89% of HCV-Pregnant Tennesseans were White.

Positive Pregnant Tennesseans

Although hepatitis C was already under routine surveillance, TDH began enhanced surveillance on January 1, 2018, to systematically ascertain pregnancy status among hepatitis C-positive Tennesseans. This enhancement was intended to more precisely characterize the burden of hepatitis C among pregnant Tennesseans and their infants.

This section summarizes hepatitis C trends among pregnant Tennesseans and their infants from 2020 to 2024.

Case Status Classification

As there is no CSTE surveillance case definition for HCV-pregnant Tennesseans, TDH developed a local case definition. This case definition was updated in 2023. Historical and current cases were updated to align with this definition.

Laboratory data were used to determine the pregnant Tennessean's hepatitis C case status for each pregnancy as follows:

Confirmed	If a mother had at least one positive HCV RNA laboratory result during pregnancy (calculated conception date through two weeks postpartum) OR In the absence of a positive HCV RNA laboratory result during pregnancy (calculated conception date through two weeks postpartum), at least one HCV RNA laboratory result was conducted within 12 months prior to calculated conception date and the last HCV RNA laboratory results was positive.
Probable	Most recent HCV RNA laboratory result was conducted more than 12 months prior to calculated conception date and the last HCV RNA laboratory result was positive OR No evidence of a positive HCV RNA laboratory result but had a positive HCV antibody (anti-HCV) laboratory result prior to calculated conception date, during pregnancy, or within 2 weeks postpartum.

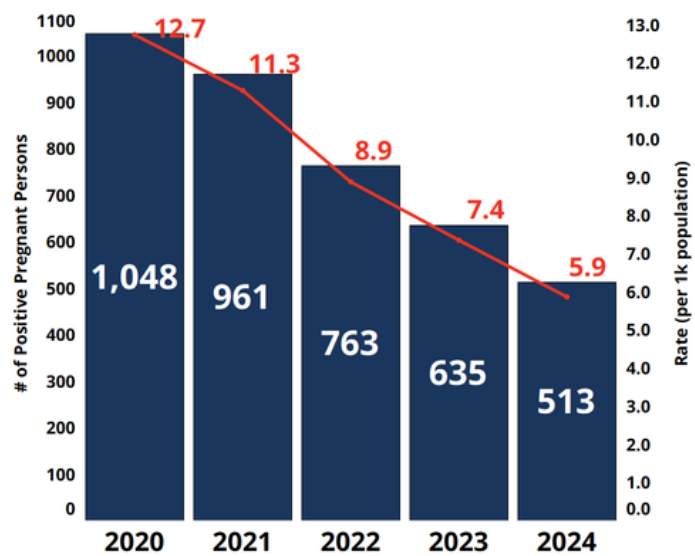
Positive Pregnant Tennesseans

Surveillance



Hepatitis C rates among pregnant Tennesseans fell from 12.7 to 7.4 per 1,000 population between 2020 and 2023.

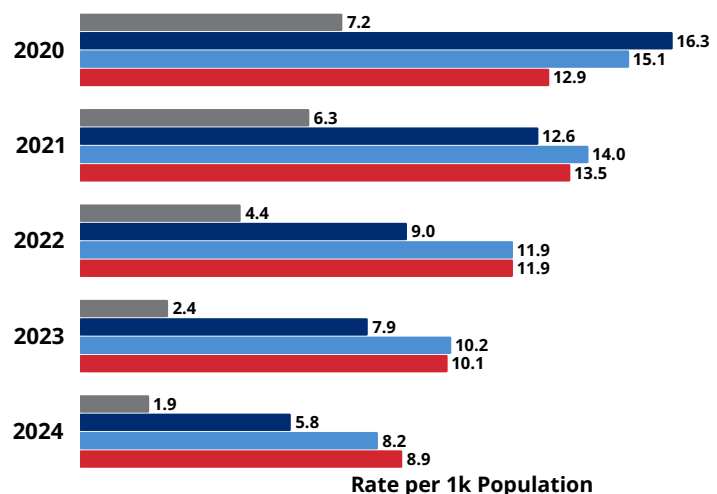
Count and Rate (per 1k population) of Pregnant Tennesseans with Hepatitis C, Tennessee, 2020–2024



From 2020 to 2024, there has been a downward trend in the number of pregnant Tennesseans with hepatitis C. *Note: The data for 2024 is still provisional.*

Rate of Pregnant Tennesseans with Hepatitis C by Age Group (per 1k population), Tennessee, 2020–2024

● 15–24 ● 25–29 ● 30–34 ● 35+



In 2020, adults aged 25–29 had the highest hepatitis C rate, but by 2021 the highest rates were seen among those aged 30 years and older.

Positive Pregnant Tennesseans

Surveillance



89.3%
of Pregnant
Tennesseans
with
Hepatitis C
were
White.

**Race/Ethnicity of Pregnant Tennesseans
with Hepatitis C (%), Tennessee, 2020–2024**

Race/Ethnicity	Count	%
White	3,495	89.3
Black or African American	283	7.2
Hispanic/Latino	75	1.9
Other/Multiple Race	59	1.5

Between 2020 and 2024, 89.3% of hepatitis C-pregnant Tennesseans were White, 7.2% were Black or African American, and 1.9% were Hispanic/Latino. *Note: The “Other” category combines Asians and other races.*



Quick Fact

HCV has not been reported to be transmitted through breast milk, although mothers with hepatitis C infection should consider abstaining from breastfeeding if their nipples are cracked or bleeding.^[29]



Perinatal Hepatitis C

Key Findings



6 in 1,000 babies are exposed to hepatitis C perinatally.



The number and rate of exposed perinatal hepatitis C cases declined from 2020 to 2024.



East Tennessee Region holds the most cases of perinatal HCV exposures.



6 of 13 regions with known perinatal HCV exposures exceeded the state average.

Perinatal Hepatitis C

Case Status Classification

In this year’s iteration, infants with no known linkage to a birthing parent were classified as “Not a Case”.

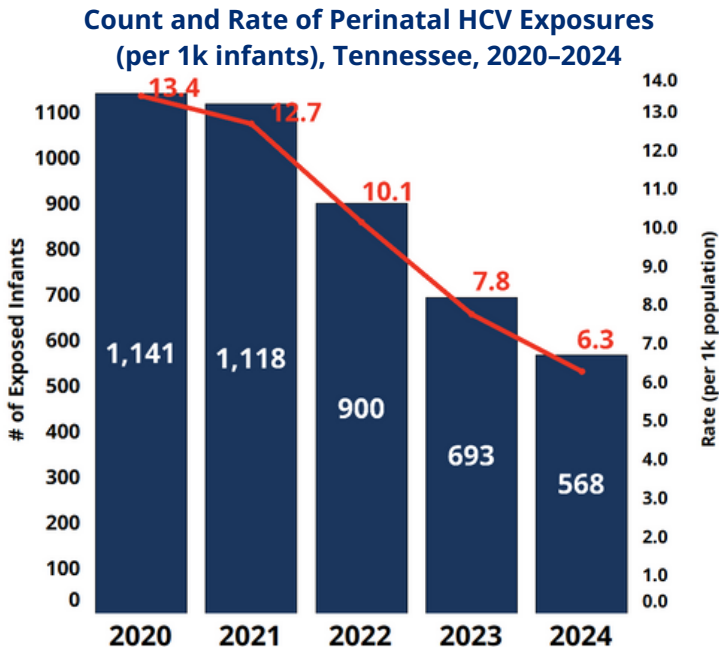
The CSTE surveillance case definition for perinatal hepatitis C can be located here: <https://ndc.services.cdc.gov/case-definitions/hepatitis-c-perinatal-infection-2018/>

Laboratory data was used to determine perinatal hepatitis C case status for each live birth. To allow for expanded surveillance, TN developed additional perinatal case statuses as follows:

Confirmed	Child had a positive HCV NAT laboratory report between 2 and 36 months of age
Probable	Child had a positive anti-HCV laboratory report between 18 and 36 months of age
Suspect	Child was born to a person with HCV (probable or confirmed) during pregnancy OR Child had a positive HCV Nucleic Acid Test (NAT) laboratory report at less than 2 months of age OR Child had a positive anti-HCV laboratory report at less than 18 months of age
Not a Case	Child was not known to be born to a person with HCV (probable or confirmed) during pregnancy and had only negative HCV NAT laboratory report OR Child was born to a person with HCV (probable or confirmed) during pregnancy and had only negative HCV NAT laboratory report between 2 and 36 months of age and/or negative anti-HCV laboratory report between 0 and 36 months of age

Perinatal Hepatitis C

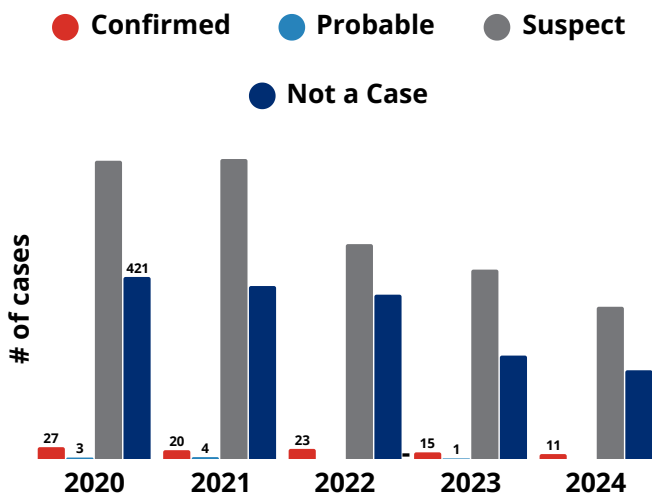
Surveillance



**From
2020–2024:
6.3 in 1,000
infants
were
exposed to
HCV
perinatally.**

Between 2020 and 2024, the number of infants exposed to HCV exhibited a downward trend. In Tennessee, 6.3 in 1,000 live births were exposed to HCV perinatally.

Count of Perinatal HCV Exposures by Case Status, Tennessee, 2020–2024

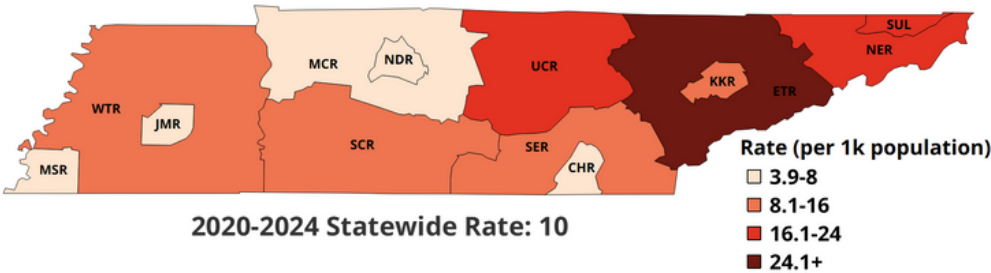


From 2020 to 2024, only 39.2% of HCV-exposed infants were appropriately tested for hepatitis C. Using a 6–7%^[29] HCV perinatal transmission rate, an estimated 265–309 infants would have acquired hepatitis C perinatally; however, only 96 were reported. *Note: Infants can be appropriately tested between 2 and 36 months of age; therefore, infants born between 2022 and 2025 may still be eligible for appropriate testing.*

Perinatal Hepatitis C

Regional Surveillance

Rates of Perinatal HCV Exposures (per 1k infants), by Region, Tennessee, 2020–2024

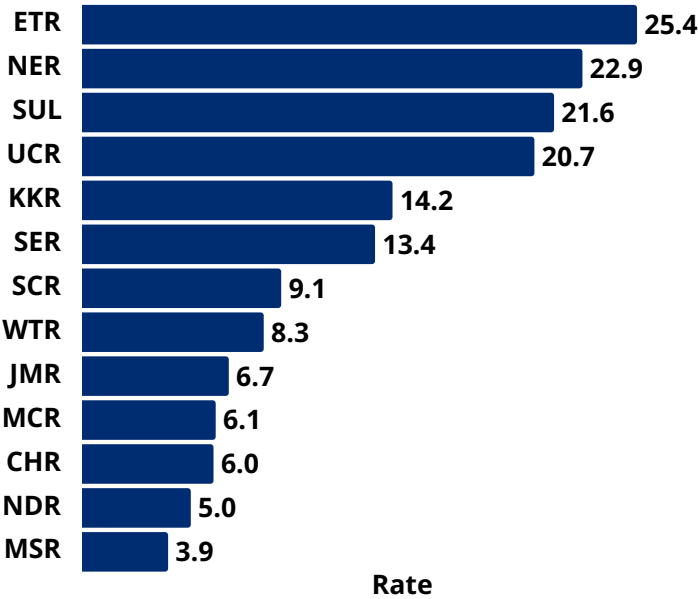


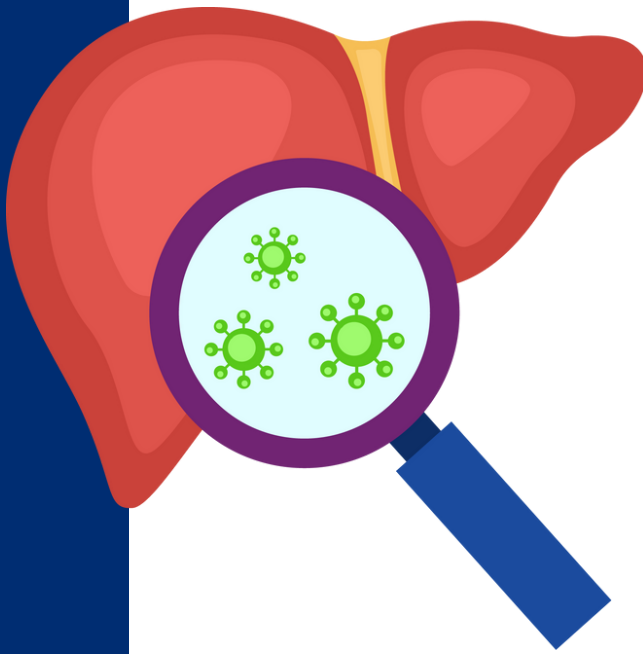
The East Tennessee region had the highest rate of perinatal exposure. All 13 public health regions had perinatal HCV exposures; 6 (46.2%) of those regions had an exposure rate higher than the statewide rate of 10 per 1,000 live births.

Top Rates of Perinatal HCV Exposures (per 1k infants) by Region, Tennessee, 2020–2024



From 2020-2024, ETR had the highest rate of perinatal HCV exposure.





TN Hepatitis C Care Cascade

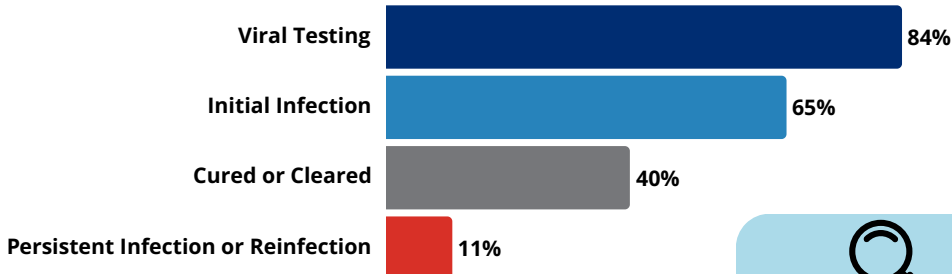
Key Findings

-  Incarcerated individuals and males were more likely to have persistent hepatitis C infection or reinfection.
-  Hispanic/Latinos had the highest percentage of persistent hepatitis C infection or reinfection.
-  Females were more likely to receive viral hepatitis C testing compared to males.
-  Baby Boomers had the lowest percentage of hepatitis C viral testing, but the highest clearance rate after treatment.

Hepatitis C Clearance Cascade

Surveillance

Hepatitis C Clearance Cascade, Tennessee, 2020–2024



From 2020 to 2024, approximately 84% of individuals with evidence of prior hepatitis C exposure, defined by a positive hepatitis C antibody test, received follow-up viral RNA testing. Among those tested, about two-thirds had evidence of current hepatitis C infection. Nearly 40% had cleared the virus either spontaneously or through treatment, while about 11% had persistent infection or evidence of reinfection. *Note: This analysis includes all individuals who have ever been infected with hepatitis C, defined as those with a positive hepatitis C antibody test.*

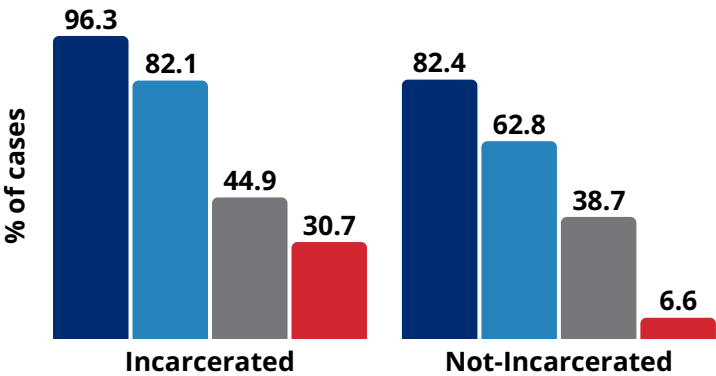


Incarcerated individuals were 4.7 times more likely to have a persistent hepatitis C infection or reinfection

Incarceration

Hepatitis C Clearance Cascade, Incarcerated vs Non-Incarcerated, Tennessee, 2020–2024

■ Viral testing ■ Cured/Cleared
■ Initial infection ■ Persistent infection/Reinfection

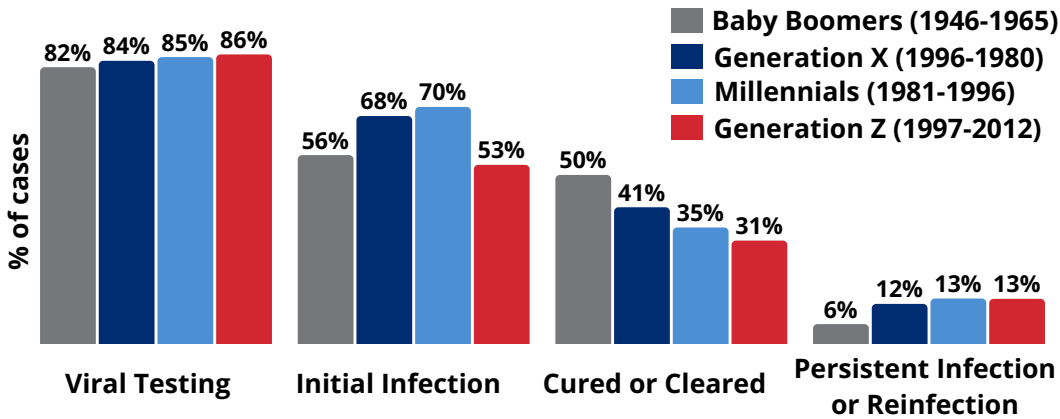


People who were incarcerated had higher rates of both initial infection, and persistent infection or reinfection compared to those who were not incarcerated. However, they also had a higher proportion of viral testing, and clearing or being cured of hepatitis C.

Hepatitis C Clearance Cascade

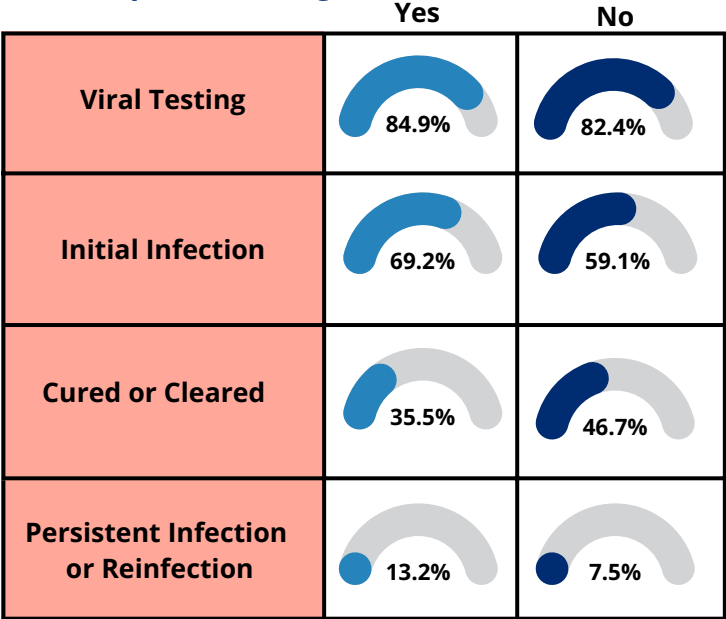
Age

Hepatitis C Clearance Cascade by Generation, Tennessee, 2020–2024



From 2020 to 2024, the Baby Boomer generation was more likely to clear the virus and less likely to have a persistent infection or reinfection compared to younger generations. *Note: This analysis includes all individuals who have ever been infected with hepatitis C, defined as those with a positive hepatitis C antibody test.*

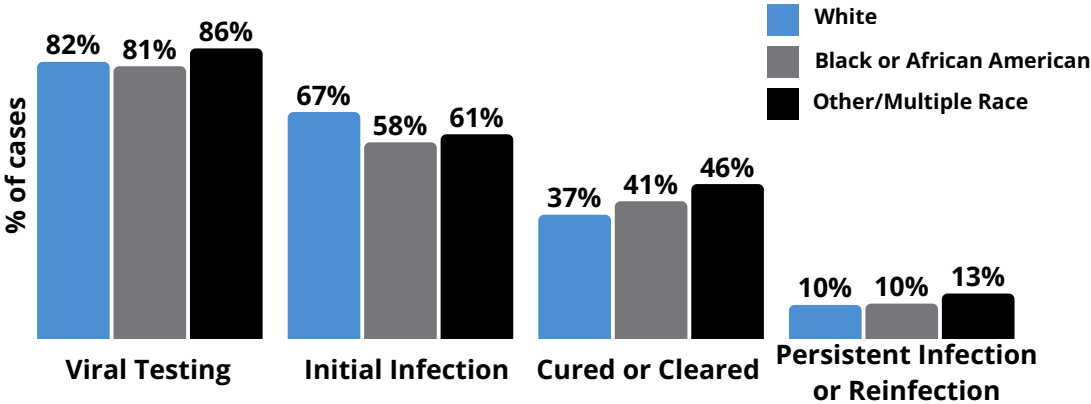
Hepatitis C Clearance Cascade by Reproductive Age, Tennessee, 2020–2024




Those of reproductive age were 1.3 times less likely to be cured or cleared of their HCV infection.

Hepatitis C Clearance Cascade

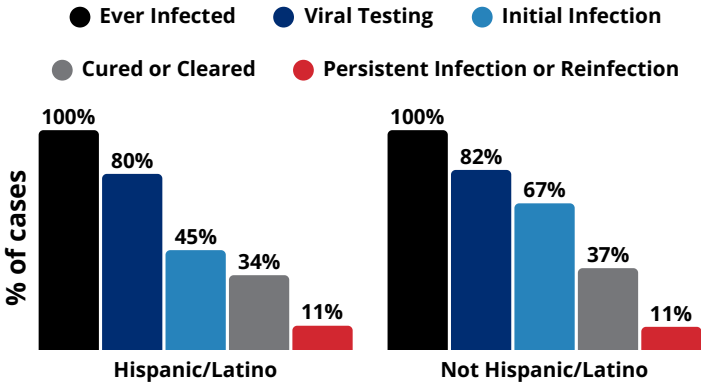
Race Hepatitis C Clearance Cascade by Race, Tennessee, 2020–2024



From 2020 to 2024, Other/multiple races had the highest percentage of viral testing, followed by Whites, then Black or African Americans. However, Whites had the lowest percentage of having cured or cleared their HCV infection when compared to other races. *Note: Due to the small number of cases, Asians are included in the "Other/Multiple Race" category. This analysis includes all individuals who have ever been infected with hepatitis C, defined as those with a positive hepatitis C antibody test.*

Ethnicity

Hepatitis C Clearance Cascade, Hispanic/Latino vs Non-Hispanic/Latino, Tennessee, 2020–2024



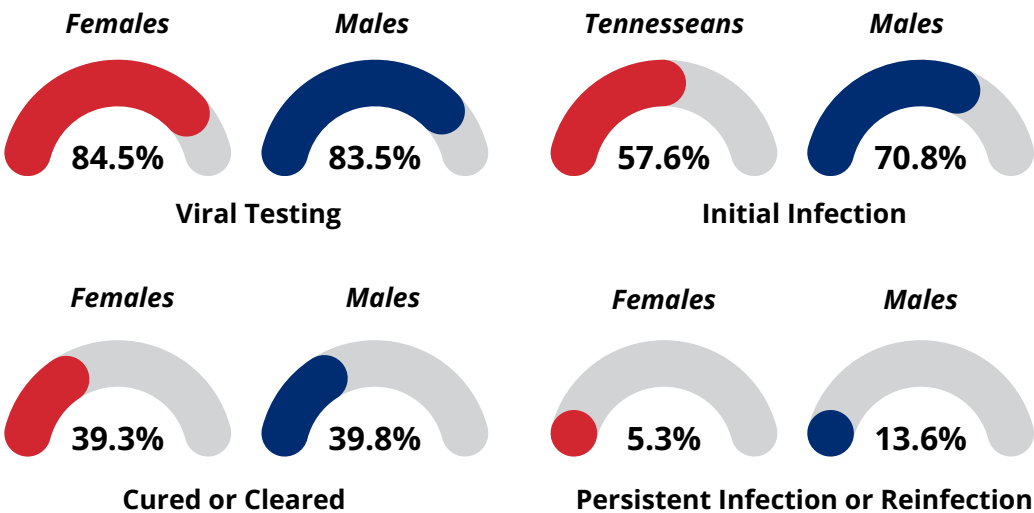
Hispanic/Latinos were 1.5 times less likely to have an initial infection after viral testing.

Non-Hispanic/Latinos experienced higher percentages of initial infection and being cured or cleared of infection, compared to Hispanic/Latinos. Percentages for viral testing and persistent infection or reinfection were similar between the two groups.

Hepatitis C Clearance Cascade

Sex

Hepatitis C Clearance Cascade by Sex, Tennessee, 2020–2024



From 2020 to 2024, females exposed to hepatitis C were more likely to get a follow-up viral test. However, males were more likely to show signs of currently living with hepatitis C, as well as persistent hepatitis C or acquired hepatitis C again. The percentage of people who cleared or were cured of hepatitis C was the same for both males and females. *Note: This analysis includes all individuals who have ever been infected with hepatitis C, defined as those with a positive hepatitis C antibody test.*

Quick Fact

HCV reinfection can occur despite the presence of antibodies. Only HCV viral testing is representative of current infection.^[30]



Compared to females, males were 2.6 times more likely to have a persistent hepatitis C infection or reinfection.



Hepatitis & Cancer in TN

Key Findings



Cancer of the digestive organs was the most common category of cancer among individuals living with hepatitis B or C.



Hepatocellular carcinoma (liver cancer) had the highest incidence of digestive cancer.

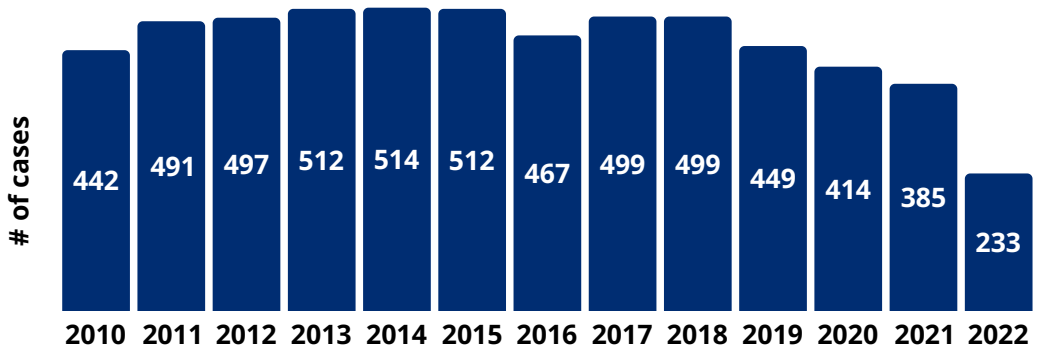


The number of hepatocellular cancer cases decreased from 2010–2022.

Cancer

Surveillance - Cancer

Count of Cancer Cases Among People Living with Hepatitis B or C, Tennessee, 2010–2022



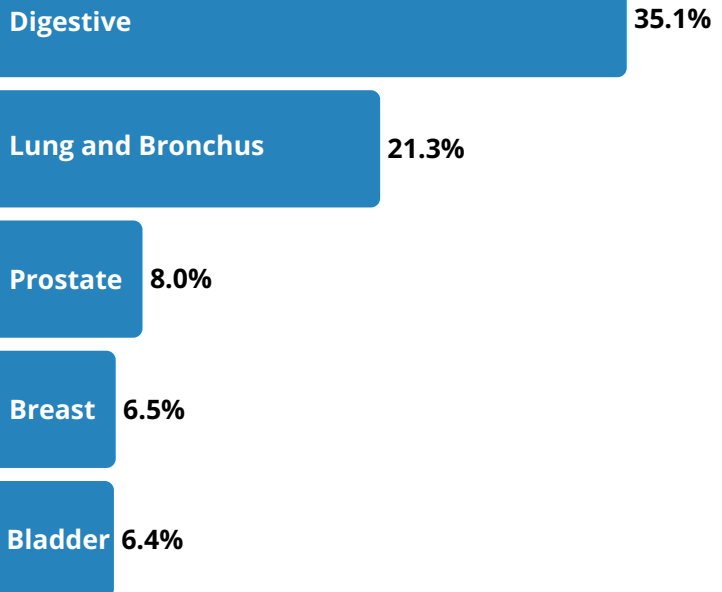
To identify cancer cases among this population, people with a history of hepatitis B or C were matched to the Tennessee Cancer Registry based on their Social Security numbers.

Note: Viral hepatitis cases without a reported social security number were not eligible to be matched to the cancer registry, likely leading to under-matching to cancer cases.

Top Cancer Categories by Percentage, Tennessee, 2010–2022



Cancer in the digestive organs was the most common category of cancer among individuals with hepatitis B or C.

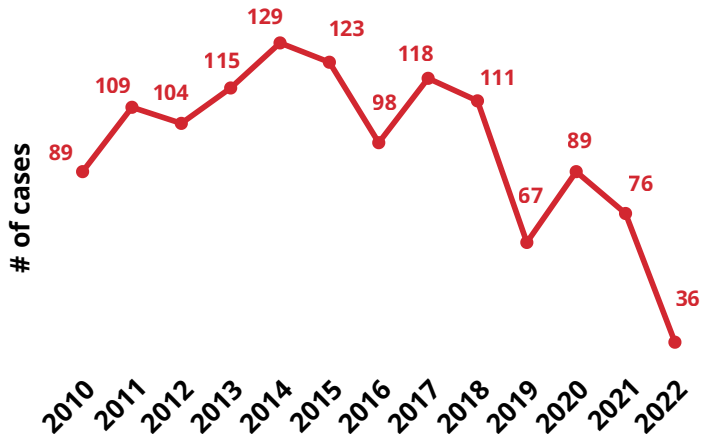


Cancer



The highest incidence of cancer was hepatocellular carcinoma (liver cancer).

Count of Liver Cancer Cases Among People Living with Hepatitis B or C, Tennessee, 2010–2022

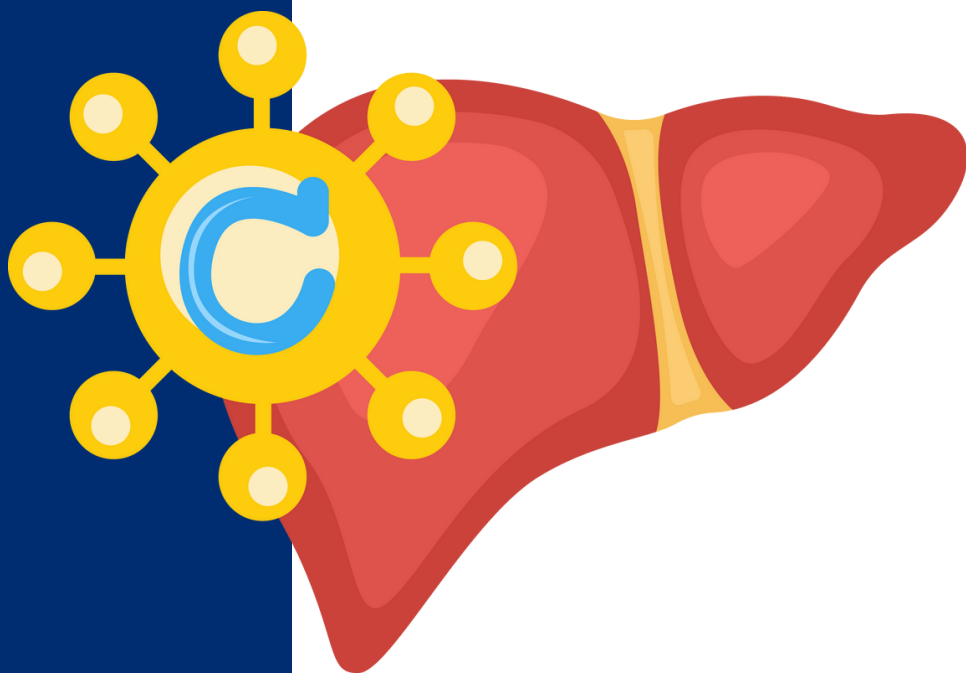


The highest incidence of cancer was hepatocellular carcinoma for people living with hepatitis B or C from 2010–2022. However, trends in this category have decreased since 2017.

Quick Fact



Hepatitis B can lead to hepatocellular carcinoma without first causing cirrhosis in the form of liver damage.^[31]



Persons Living with Hepatitis C in TN

Key Findings



From 2020–2024, there has been a decrease in the number of people living with hepatitis C in Tennessee.



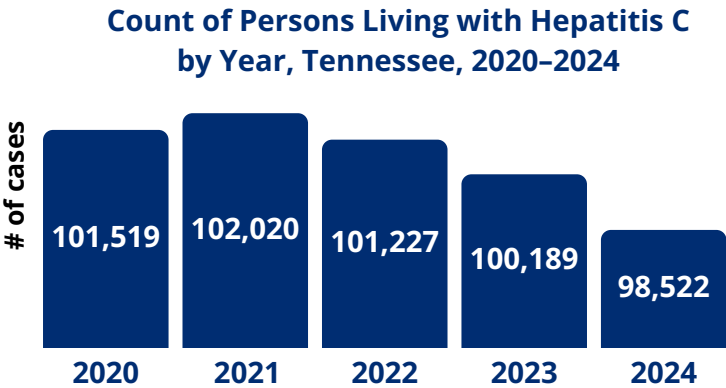
The downward trend in cases is primarily due to individuals having cleared or cured their infection.



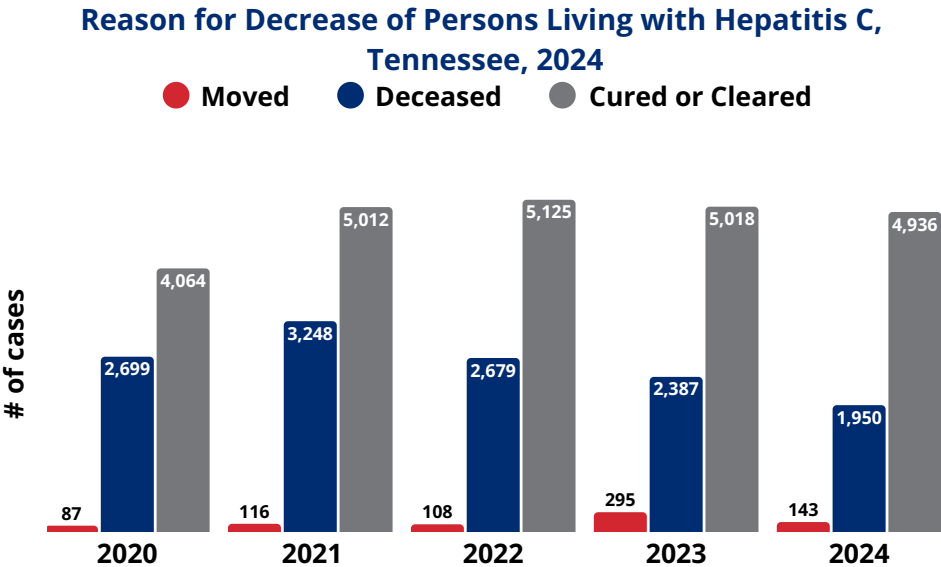
In 2024, Whites had the highest number of cases of hepatitis C, followed by Black or African Americans.

Persons Living with HCV

Surveillance



From 2020–2024, the number of people living with hepatitis C decreased, with the lowest number of cases seen in 2024.

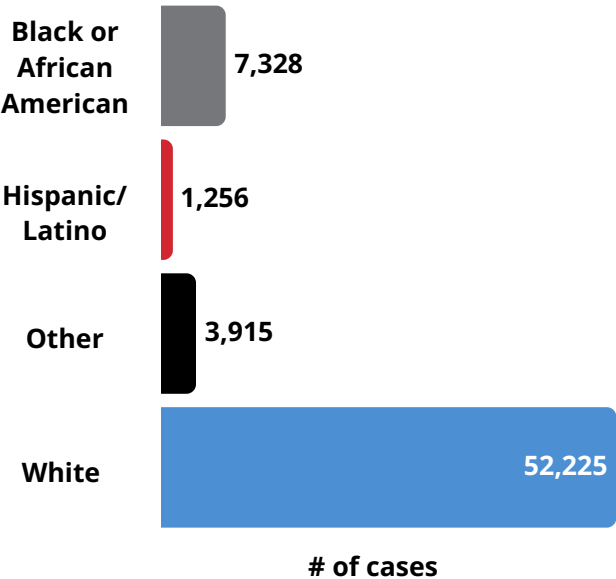


The primary reason for the decline in hepatitis C cases was an increase in people clearing the virus. Deaths among those living with HCV also contributed to this decrease, with death rates peaking in 2021 and then declining each year thereafter. Another factor was relocation, as some individuals with hepatitis C moved to other states, commonly nearby ones such as Mississippi, Kentucky, and Georgia.

Persons Living with HCV

Race

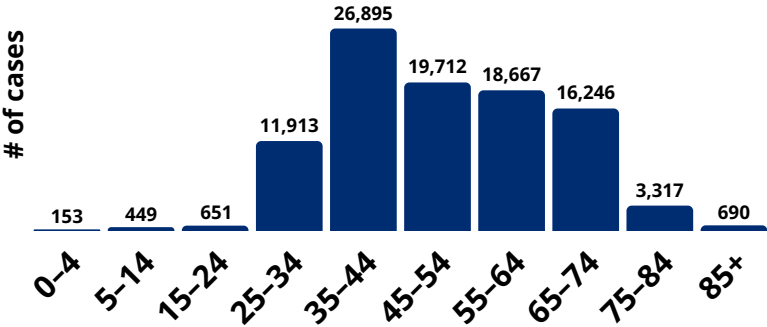
Count of Persons Living with Hepatitis C, Tennessee, 2024



In 2024, Whites had the highest number of cases of hepatitis C, followed by Black or African Americans.

Only people with a reported race and ethnicity are included in this chart. In 2024, Whites had the highest number of cases of hepatitis C, followed by Black or African Americans, while Hispanic/Latinos had the fewest cases. *Note: Due to a small number of cases, Asians are included in the Other Race category.*

Count of Persons Living with Hepatitis C, by Age Group, Tennessee, 2024

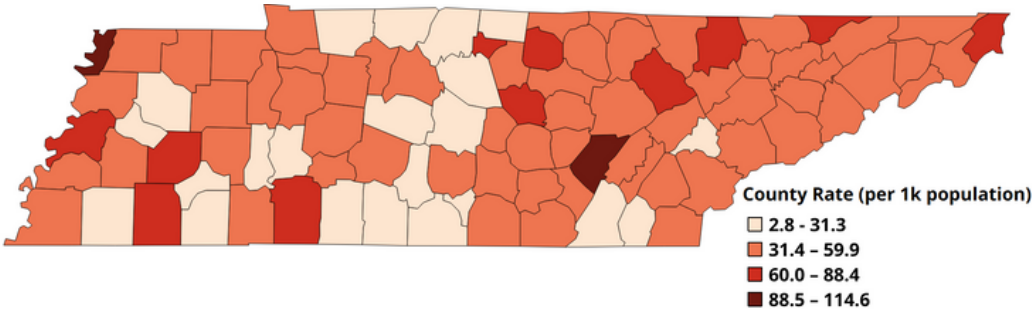


Cases of hepatitis C were highest among those aged 35-44 and lowest among those aged under 24 years.

Persons Living with HCV

Demographics

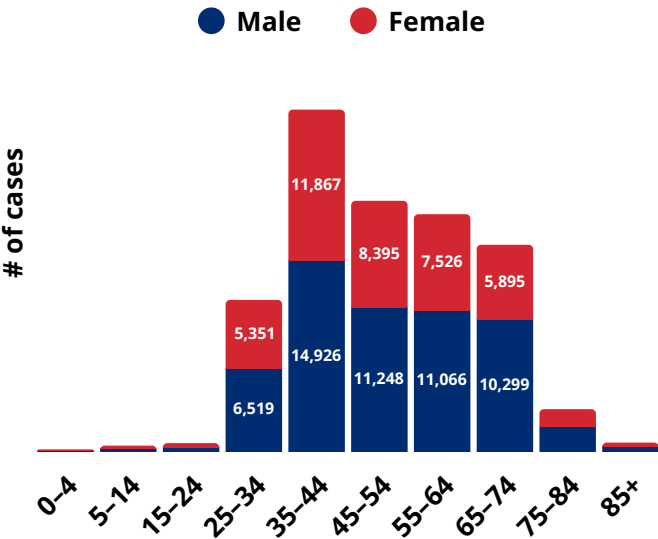
Rate of Persons Living with Hepatitis C (per 1k),
by County, Tennessee, 2024



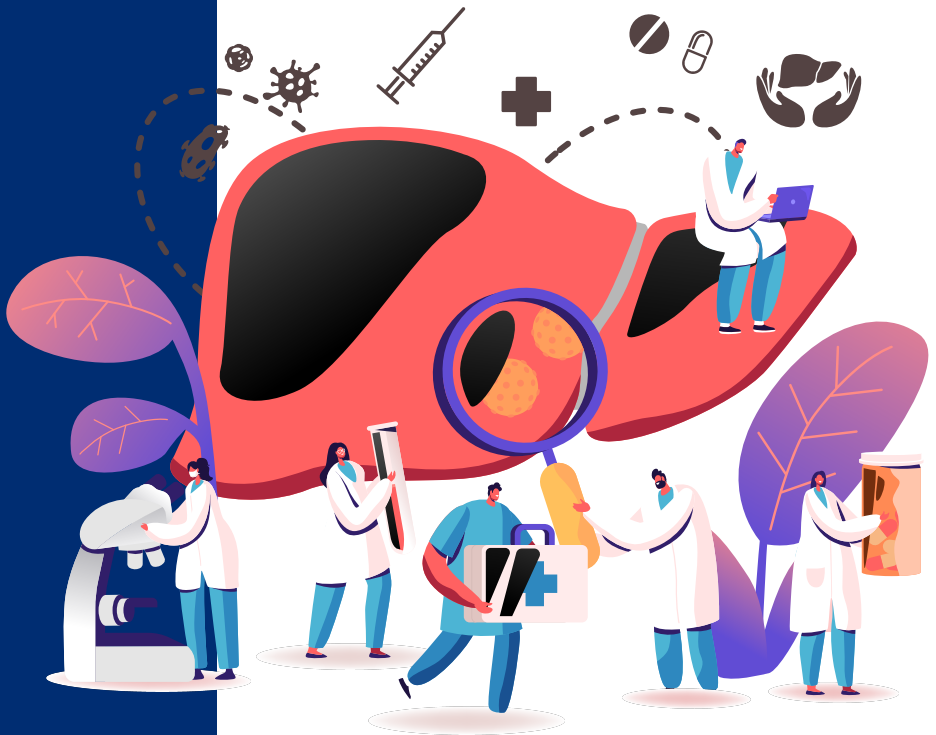
**In 2024,
there were
98,522
people living
with hepatitis C
in Tennessee.**

In 2024, there were 98,522 people living with hepatitis C, of whom 3,121 were incarcerated. Rates of hepatitis C were higher in the carceral setting. Therefore, counties with a state prison (Bledsoe, Davidson, Hardeman, Hickman, Johnson, Lake, Lauderdale, Morgan, Shelby, and Wayne) may see higher rates.

Count of Persons Living with Hepatitis C
by Age and Sex, Tennessee, 2024



In 2024, individuals aged 35-44, regardless of gender, had the highest number of hepatitis C cases. Overall, males accounted for the majority of cases compared to females.



TN Hepatitis B, C, & HIV Co-Occurrence

Key Findings



From 2020 to 2024, HBV & HCV and HCV & HIV co-occurrence decreased.



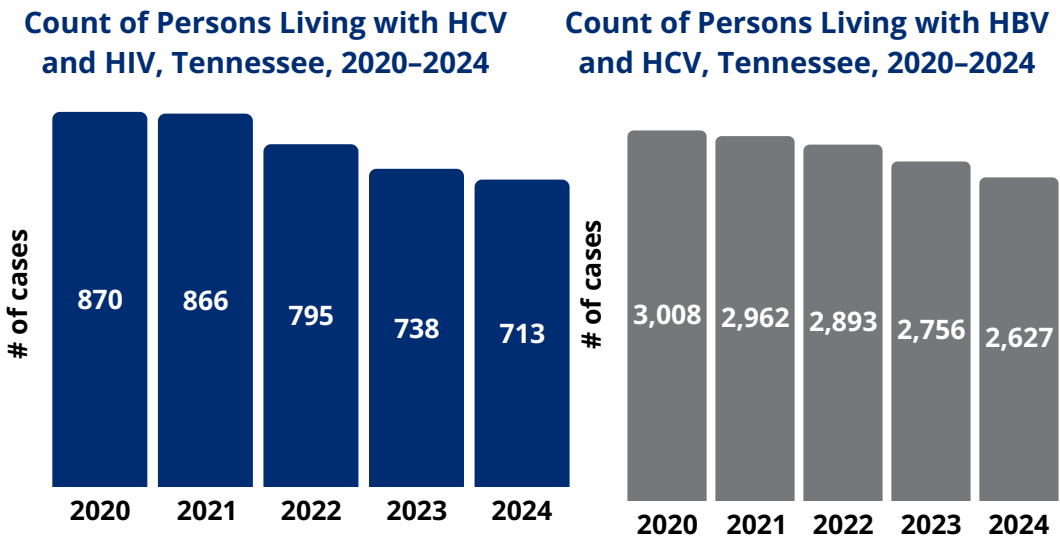
The number of HBV, HCV, and HIV co-occurrences was the highest in 2020.



New HBV & HIV and HCV & HIV co-occurrence were highest in 2021.

HBV, HCV & HIV Co-Occurrence

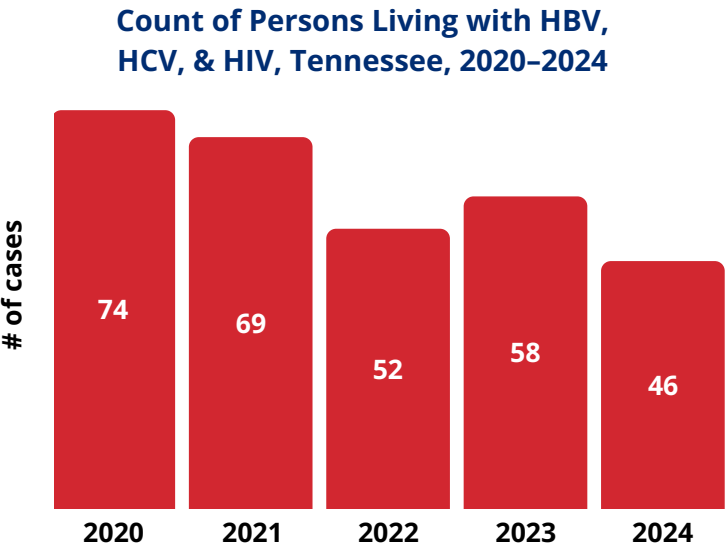
Surveillance- Current Co-Occurrences



From 2020 to 2024, the number of HCV & HIV, as well as HCV & HBV co-occurrence cases, has decreased.

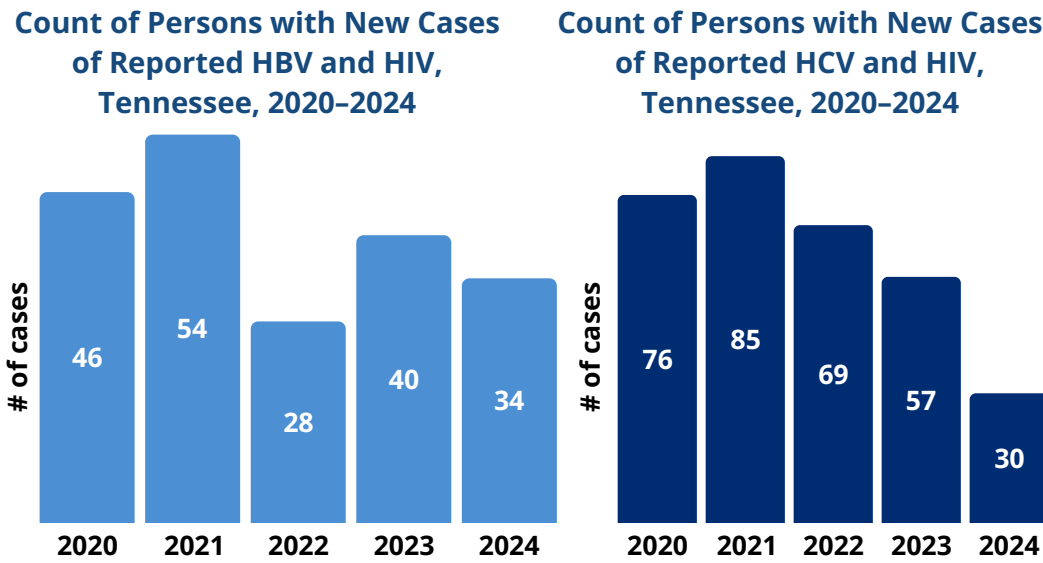


2020 had the highest number of people living with HBV, HCV, and HIV.



HBV, HCV & HIV Co-Occurrence

Surveillance - New Co-Occurrences



From 2020–2024, the number of individuals living with HBV & HIV has fluctuated yearly. The highest number of cases was observed in 2021, with 54 new cases, and the lowest in 2022, with 28 new cases. Similarly, the same observation can be seen in the number of individuals newly living with HCV & HIV, where the highest number of cases was observed in 2021, with 85 new cases, while the lowest was in 2023, with 57 new cases.



Quick Fact

In the United States, 21% of people living with HIV also have HCV. HIV may cause HCV to progress faster, leading to more aggressive liver damage.^[32]



TN Hepatitis B and C Associated Mortality

Key Findings



Hepatitis C-associated mortality decreased from 2020 to 2024.



Males had a higher mortality rate than females.



Black or African Americans had the highest mortality rate in 2020 but Whites had the highest mortality rates from 2021–2024.

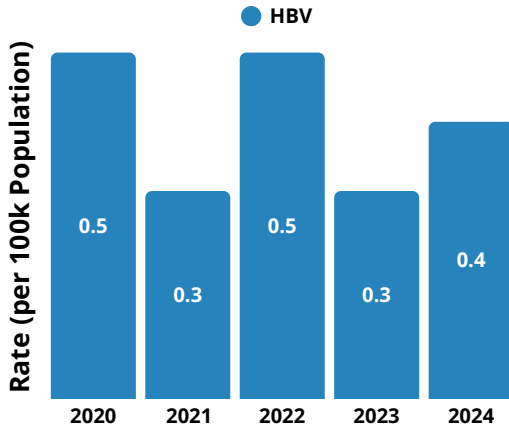


People living with hepatitis B or C had a lower median life expectancy than the general population.

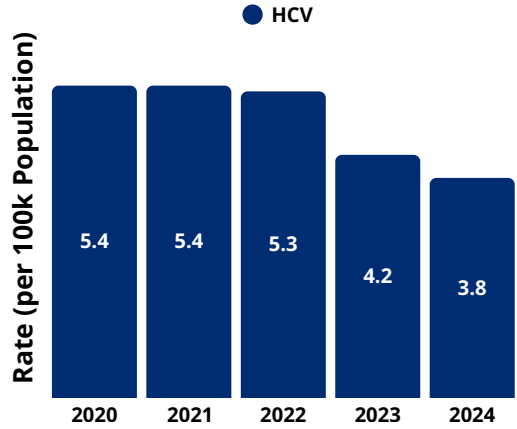
Mortality

Surveillance - Mortality

**Age-Adjusted Rate of Death
(per 100k) for HBV Associated
Mortality, Tennessee, 2020–2024**

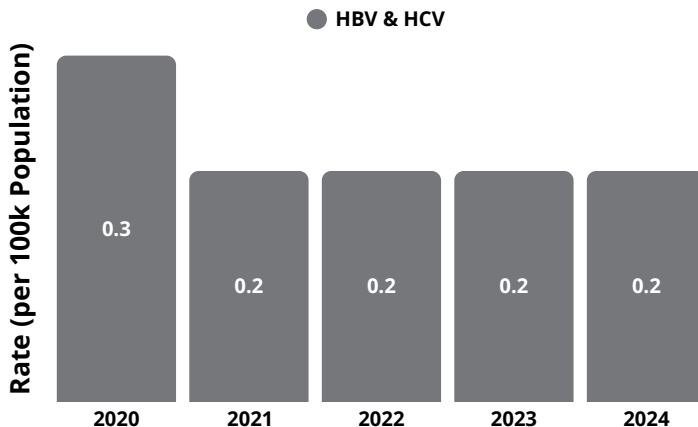


**Age-Adjusted Rate of Death
(per 100k) for HCV Associated
Mortality, Tennessee, 2020–2024**



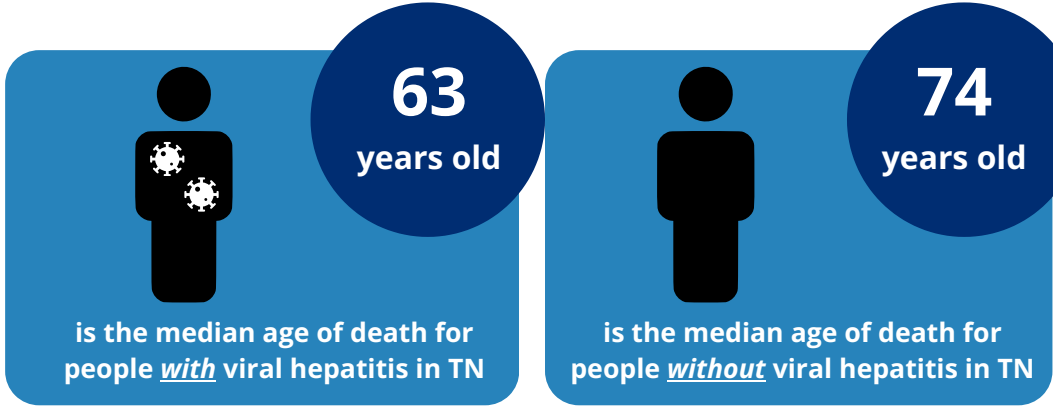
From 2023–2024, rates of HBV-associated mortality increased from 0.3 to 0.4. However, from 2020–2024, rates of HCV-associated and HCV & HBV-associated mortality in Tennessee decreased.

**Age-Adjusted Rate of Death (per 100k) for HBV &
HCV Associated Mortality, Tennessee, 2020–2024**



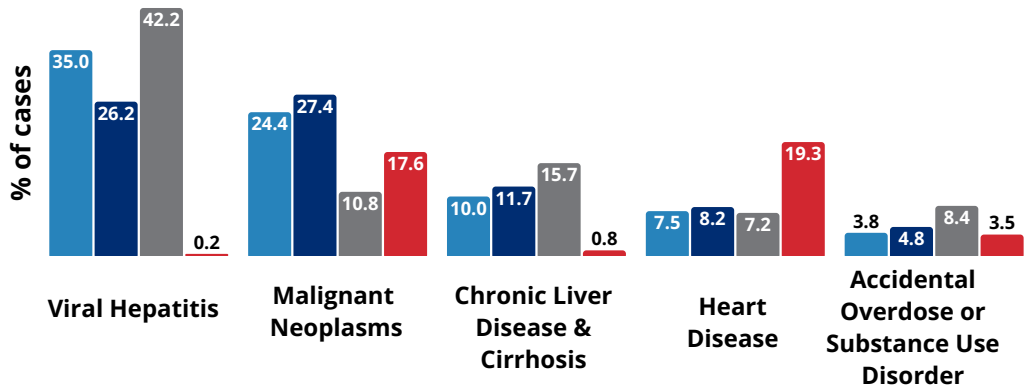
**From
2020–2024:
HCV-associated
and HCV & HBV-
associated
mortality
decreased.**

Mortality



Percent of Underlying Causes of Death Among those with HBV, HCV, HBV/HCV, & the General Population, in Tennessee, 2020–2024

● HBV ● HCV ● HBV & HCV ● TN Population



Individuals living with both hepatitis B and C had the highest percentage of deaths from viral hepatitis. This group also had mortality rates higher than the general Tennessee population for other causes of death, including:

- Chronic Liver Disease and Cirrhosis
- Accidental Overdose or Substance Use Disorder

Moreover, deaths from malignant neoplasms occurred most in individuals with hepatitis C when compared to the general Tennessee population.

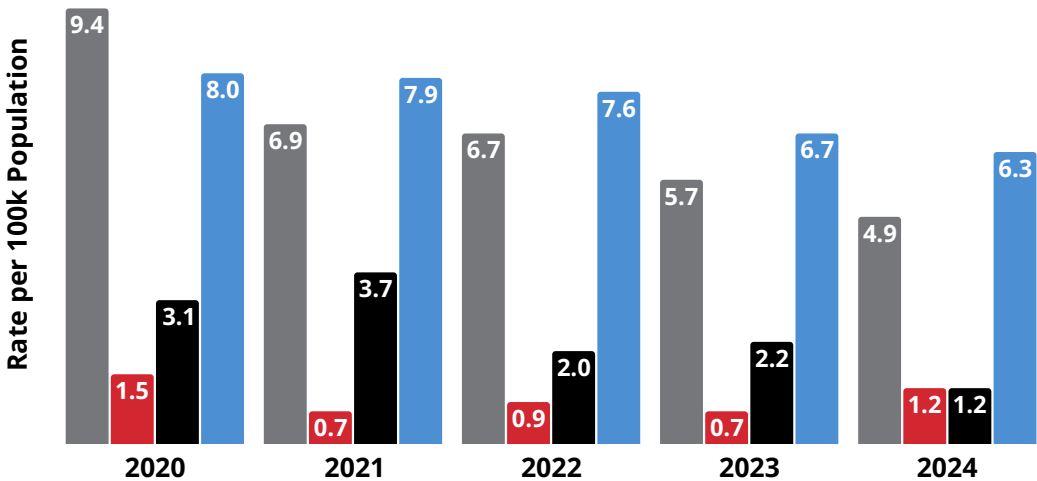
Note: Individual(s) without hepatitis B or C could die from viral hepatitis if they had a past infection or another type of hepatitis.

Mortality

Mortality Rates due to Viral Hepatitis (per 100,000 people),
Race/Ethnicity, Tennessee, 2020–2024

● Black or African American ● Hispanic/Latino ● Other

● White



From 2020–2024, Black or African Americans had a 48% drop in mortality rate.

In 2020, Black or African Americans had the highest viral hepatitis mortality rate. Between 2020 and 2024, the rate declined from 9.4 to 4.9 deaths per 100,000 population.

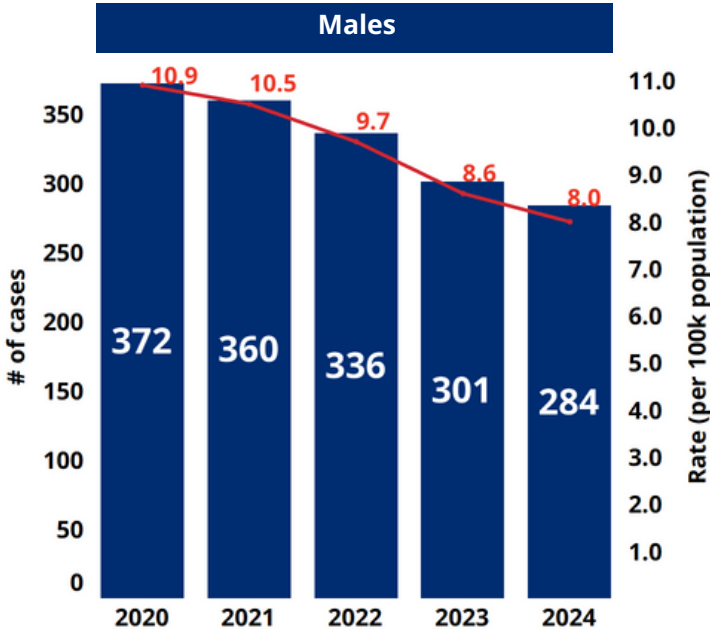
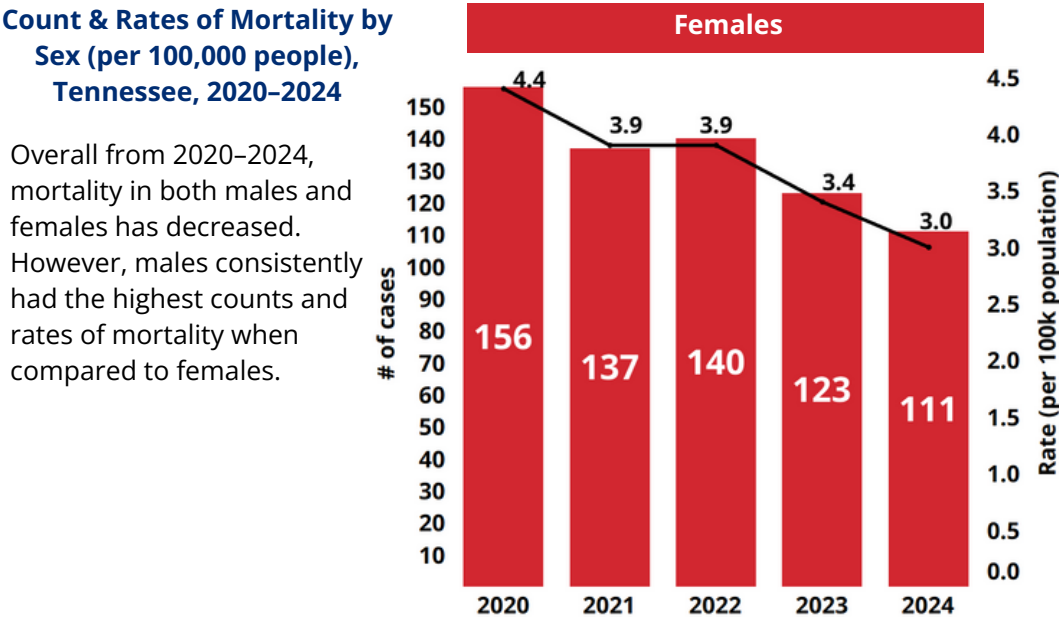
From 2021–2024, Whites had the highest mortality rate when compared to all other races and ethnicities. Meanwhile, Hispanics/Latinos were the only population to see an increase in mortality rate from 2023 to 2024. *Note: The “Other” category combines Asians and other races.*

Mortality

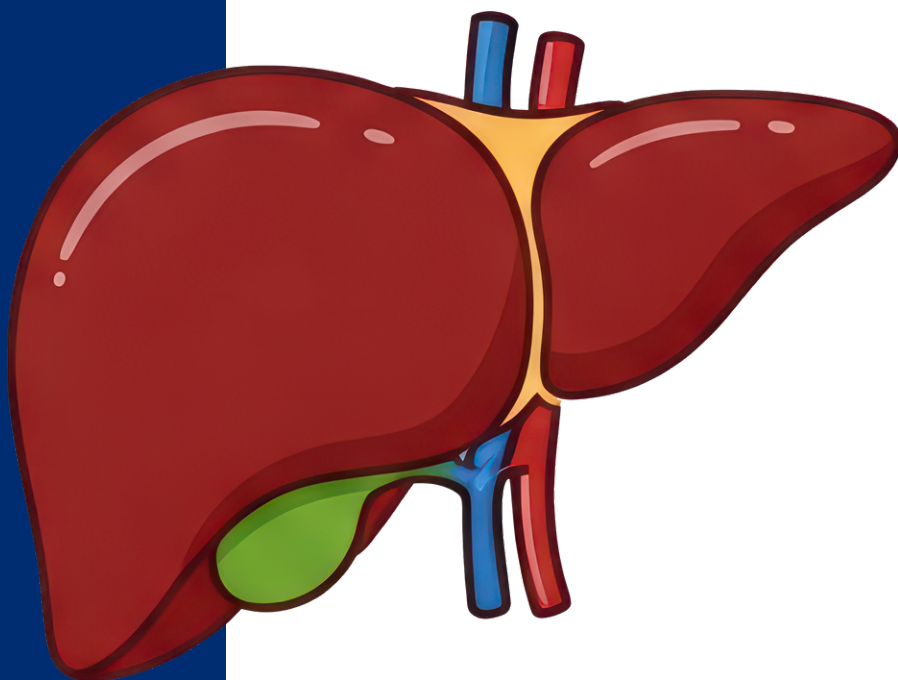
Mortality Demographics

Count & Rates of Mortality by Sex (per 100,000 people), Tennessee, 2020–2024

Overall from 2020–2024, mortality in both males and females has decreased. However, males consistently had the highest counts and rates of mortality when compared to females.



In 2024, males had a mortality rate 2.7 times higher than females.



Appendix

Glossary

Acute Viral Hepatitis: The early stage of a viral infection of the liver most commonly caused by one of three different hepatitis viruses (A, B, or C). Signs and symptoms of acute viral hepatitis include yellowing of the skin or eyes (jaundice), abdominal pain, vomiting, nausea, diarrhea, malaise, gray-colored stools, or dark urine.

Chronic Viral Hepatitis: A long-term illness that occurs when HBV or HCV remains in a person's body. Chronic viral hepatitis can lead to serious liver problems, including cirrhosis (scarring of the liver) or liver cancer.

Hepatitis B Virus (HBV): A double-stranded deoxyribonucleic acid (DNA) virus in the family Hepadnaviridae and genus Orthohepadnavirus. HBV is vaccine-preventable.

Hepatitis B Core Antibody Total (anti-HBc): The presence of anti-HBc indicates previous or ongoing infection with HBV in an undefined time frame.

Hepatitis B Core IgM Antibody (IgM anti-HBc): The presence of IgM anti-HBc indicates recent infection with HBV (≤ 6 months).

Hepatitis B Surface Antibody (anti-HBs): The presence of anti-HBs indicates recovery and immunity from HBV, either naturally or through vaccination.

Hepatitis B Surface Antigen (HBsAg): The presence of HBsAg indicates that the person is living with hepatitis B and can transmit the virus to others.

Probable Acute Hepatitis B (Local TDH Definition): 1) signs or symptoms (jaundice or ALT >100) of HBV, positive HBsAg, and unknown IgM anti-HBc; **OR** 2) in the absence of both signs and symptoms of HBV, HBsAg positive and positive IgM anti-HBc.

Hepatitis C Virus (HCV): An enveloped, single-stranded ribonucleic acid (RNA) virus in the family Flaviviridae and genus Hepacivirus. HCV is not vaccine-preventable.

Hepatitis C Antibody (anti-HCV): The presence of antibodies to HCV in the blood indicates previous exposure to HCV.

Hepatitis C Ribonucleic Acid (RNA): A test that looks for the genetic material (RNA) of the hepatitis C virus in the blood. It shows whether the virus is currently active in the body. An HCV RNA test is used to confirm an infection, check if the virus has cleared, and monitor for ongoing or repeat infections.

Nucleic Acid Test (NAT): A molecular technique that tests for the presence of an infectious organism by testing for the presence of viral DNA (for HBV) and viral RNA (for HCV). NAT testing can be quantitative or qualitative and includes polymerase chain reaction (PCR) and genotype tests. The presence of viral DNA (for HBV) and viral RNA (for HCV) indicates the person is currently living with HBV and/or HCV.

Sustained Virologic Response (SVR): SVR occurs when HCV RNA is undetectable 12 or more weeks after a person has completed hepatitis C treatment.

Vertical Transmission (Perinatal Transmission): A pathogen transmitted from mother to baby in pregnancy or during childbirth. Both HBV and HCV can be transmitted vertically.

References

- [1] Centers for Disease Control and Prevention. Clinical Overview of Hepatitis B. Published August 29, 2025. Accessed December 3, 2025.
https://www.cdc.gov/hepatitis-b/hcp/clinical-overview/?CDC_AAref_Val=https://www.cdc.gov/hepatitis/hbv/hbvfaq.htm
- [2] Centers for Disease Control and Prevention. Achievements in Public Health: Hepatitis B Vaccination --- United States, 1982--2002. Published June 28, 2002. Accessed December 3, 2025.
<https://www.cdc.gov/mmWR/preview/mmwrhtml/mm5125a3.htm>
- [3] Ly KN, Yin S, Spradling PR. Regional Differences in Mortality Rates and Characteristics of Decedents With Hepatitis B Listed as a Cause of Death, United States, 2000-2019. JAMA Netw Open. 2022;5(6):e2219170.
doi:10.1001/jamanetworkopen.2022.19170.
- [4] Centers for Disease Control and Prevention. Hepatitis B Surveillance — 2023 Hepatitis Surveillance. CDC. Published April 15, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-b/index.html> (cdc.gov)
- [5] Centers for Disease Control and Prevention. Figure 2.2 – Acute Hepatitis B: Case Rates by Jurisdiction. Published October 21, 2024. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis/statistics/2022surveillance/hepatitis-b/figure-2.2.htm>
- [6] Centers for Disease Control and Prevention. Table 2.3 – Chronic Hepatitis B: Case Rates by Jurisdiction. Published April 15, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-b/table-2-5.html>
- [7] Centers for Disease Control and Prevention. Table 2.7 – Hepatitis B: Death Rates by Jurisdiction. Published April 15, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-b/table-2-7.html>
- [8] Hofmeister MG, Rosenthal EM, Barker LK, Rosenberg ES, Barranco MA, Hall EW, Edlin BR, Mermin J, Ward JW, Ryerson AB. Estimating prevalence of hepatitis C virus infection in the United States, 2013–2016. Hepatology. 2018;69(3):1020–1031.
doi:10.1002/hep.30297
- [9] Basit H, Koirala J. Hepatitis C. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan–. Updated March 26, 2023. Bookshelf ID: NBK430897. Accessed December 3, 2025.
- [10] Centers for Disease Control and Prevention. Hepatitis C — Testing. CDC. Published January 31, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-c/testing/index.html>
- [11] Centers for Disease Control and Prevention. Clinical Care of Hepatitis C. CDC. Published January 31, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-c/hcp/clinical-care/index.html>

References

- [12] Centers for Disease Control and Prevention. Figure 3.3 – Acute Hepatitis C: Map of Case Rates. Published April 15, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-c/figure-3-3.html>.
- [13] Centers for Disease Control and Prevention. Hepatitis C Surveillance — 2023 Hepatitis Surveillance. Published April 15, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-c/index.html> (cdc.gov)
- [14] Centers for Disease Control and Prevention. Figure 3.3 – Acute Hepatitis C: Map of Case Rates. In: 2022 Hepatitis Surveillance. Published October 21, 2024. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis/statistics/2022surveillance/hepatitis-c/figure-3.3.htm> (cdc.gov)
- [15] Centers for Disease Control and Prevention. Clinical Screening and Diagnosis for Hepatitis C. Published January 31, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-c/hcp/diagnosis-testing/>.
2025.CDC_AAref_Val=[https://www.cdc.gov/hepatitis/Hepatitis C/guidelinesc.htm](https://www.cdc.gov/hepatitis/Hepatitis%20C/guidelinesc.htm)
- [16] Centers for Disease Control and Prevention. Hepatitis C, Chronic 2020 Case Definition. Published April 15, 2021. Accessed December 3, 2025.
<https://ndc.services.cdc.gov/case-definitions/hepatitis-c-chronic-2020/>
- [17] Centers for Disease Control and Prevention. Table 3.5 – Chronic Hepatitis C: Case Rates by Jurisdiction. Published April 15, 2021. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-c/table-3-5.html>
- [18] Centers for Disease Control and Prevention. Figure 3.3 – Acute Hepatitis C: Map of Case Rates. Published April 15, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-c/figure-3-3.html>
- [19] Centers for Disease Control and Prevention. Table 3.7 – Hepatitis C: Death Rates by Jurisdiction. Published April 15, 2025. Accessed December 3, 2025.
<https://www.cdc.gov/hepatitis-surveillance-2023/hepatitis-c/table-3-7.html>
- [20] Tennessee Department of Health. Rural Areas. In: Healthy Places — Land Use. Tennessee.gov. Accessed December 3, 2025.
<https://www.tn.gov/health/cedep/environmental/healthy-places/healthy-places/land-use/lu/rural-areas.html>
- [21] U.S. Census Bureau. Annual Estimates of the Resident Population for Selected Age Groups by Sex for Tennessee: April 1, 2020 to July 1, 2024 (SC-EST2024-AGESEX-47). Population Division; Release Date June 2025.
- [22] U.S. Census Bureau. Estimates of the Resident Population for Selected Age Groups by Sex for the United States: April 1, 2020 to July 1, 2024 (NC-EST2024-AGESEX). Population Division; Release Date June 2025.

References

- [23] U.S. Census Bureau. Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin for Tennessee: April 1, 2020 to July 1, 2024 (SC-EST2024-SR11H-47). Population Division; Release Date June 2025.
- [24] U.S. Census Bureau. Income in the past 12 months, Tennessee: 2024. Accessed December 3, 2025. <https://data.census.gov/table?q=race%2Band%2Bincome%2Btennessee>
- [25] U.S. Census Bureau. Income in the past 12 months, United States: 2024. Accessed December 3, 2025. <https://data.census.gov/table?q=race+and+income>
- [26] U.S. Census Bureau. Poverty status in the past 12 months, Tennessee: 2024. Accessed December 3, 2025. <https://data.census.gov/table?q=federal+poverty+tennessee>
- [27] U.S. Census Bureau. Poverty status in the past 12 months, United States: 2024. Accessed December 3, 2025. <https://data.census.gov/table/ACSST1Y2023.S1701?q=federal+poverty>
- [28] U.S. Census Bureau. Median income in the past 12 months, Tennessee: 2024. Accessed December 3, 2025. <https://data.census.gov/table/ACSST1Y2023.S1903?q=race+and+income+Tennessee>
- [29] Panagiotakopoulos 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(4):1-19. doi:10.15585/mmwr.rr7204a1
- [30] Centers for Disease Control and Prevention. Hepatitis C Surveillance Guidance. Published March 14, 2024. Accessed December 3, 2025. <https://www.cdc.gov/hepatitis/php/surveillance-guidance/hepatitis-c.html>
- [31] American Liver Foundation. Hepatocellular Carcinoma: Know the risks and understand the symptoms of Hepatocellular Carcinoma. Published June 12, 2025. Accessed December 3, 2025. [https://liverfoundation.org/liver-diseases/cancer/hepatocellular-carcinoma/#:~:text=Cancer%20is%20the%20growth%20and%20spread%20of,hepatoma%20or%20hepatocellular%20carcinoma%20\(abbreviated%20as%20HCC\)](https://liverfoundation.org/liver-diseases/cancer/hepatocellular-carcinoma/#:~:text=Cancer%20is%20the%20growth%20and%20spread%20of,hepatoma%20or%20hepatocellular%20carcinoma%20(abbreviated%20as%20HCC))
- [32] Centers for Disease Control and Prevention. Viral Hepatitis Among People with HIV. Published January 31, 2025. Accessed December 3, 2025. <https://www.cdc.gov/hepatitis/hcp/populations-settings/hiv.html>

Primary Contributors

(Listed Alphabetically)

Danielle Brannen, MPH, CIC

Viral Hepatitis Core Surveillance Epidemiologist

Thunwa Klaihathai, MPH, CPH

Viral Hepatitis Special Projects Epidemiologist

Joseph Granato, MPH, CPH

Director of Viral Hepatitis Special Projects

Kimber Miller

Director of Viral Hepatitis Administrative Services

Shamia Roberts, BSN, RN

Viral Hepatitis Program Director

Paula Shoup, MS, CPH

Director of Viral Hepatitis Core Surveillance

Heather Wingate, MPH, CPH

Director of Viral Hepatitis Surveillance



Dept. of Health, Authorization # N46S21-1, electronic only, December 19, 2025. This public document was promulgated at a cost of \$Electronic per copy.