



**CUYAHOGA COUNTY  
BOARD OF HEALTH**

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# HEPATITIS B AND C SURVEILLANCE REPORT 2020 – 2024

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# Background

Viral hepatitis is a disease that affects the liver and is caused by a virus. The three most common types of viral hepatitis are hepatitis A, hepatitis B, and hepatitis C. This report will focus on hepatitis B and hepatitis C as the burden of these two diseases in Cuyahoga County residents is significant.

Hepatitis B is caused by the hepatitis B virus (HBV). The virus is present in blood and bodily fluids and is spread person-to-person when these fluids enter the body of someone who is not infected. Activities such as sharing infected injection drug use equipment, sexual contact with an infected person, or transmission of the virus during childbirth are considered major risk factors for infection. Hepatitis B can result in an acute (short-term) or chronic (long-term) illness. There is a vaccine to prevent hepatitis B and has been required at birth in the United States since 1991.

Hepatitis C is caused by the hepatitis C virus (HCV). Transmission occurs in a similar manner as the hepatitis B virus although exposure occurs primarily from blood or blood products. Risk factors for infection with hepatitis C include sharing infected injection drug use equipment, needlestick injuries involving contaminated blood, and receipt of blood or blood products before standard screening in 1992. Infection can also result in an acute or chronic illness. There is not a vaccine for hepatitis C but medicine is available to cure this illness.

Symptoms of acute Hepatitis B and C are similar and include jaundice (yellowing of skin and/or eyes), nausea, stomach pain, throwing up, loss of appetite, joint pain, fever, fatigue and dark urine or clay-colored stool. The first six months are considered the acute phase. During this time, some people will fight off the virus and no longer have an infection. Others may develop a chronic infection where symptoms are no longer present but the virus is still in the body. Finally, some may never have symptoms and develop a chronic infection.

For this reason, it is important to talk to a healthcare provider about getting tested. The Centers for Disease Control and Prevention (CDC) recommends all adults get tested for hepatitis B and C at least once in their lifetime through a blood test. Since people with hepatitis C usually do not have symptoms, getting tested is the only way to know if you have it. For more information about who should be tested more often, visit [Testing for Hepatitis B | Hepatitis B | CDC](#) and [Testing for Hepatitis C | Hepatitis C | CDC](#).



# Social Determinants of Health

Social determinants of health (SDOH) are the non-medical factors that can impact a person and community's health and well-being. There are many SDOH that can impact hepatitis health outcomes:

## ***Access to Healthcare***

Lack of health insurance and lack of transportation options can prevent individuals from getting vaccinated, tested, or treated for hepatitis.

## ***Discrimination and Social Support***

Discrimination, systemic racism, and a lack of social support systems can worsen health outcomes for certain populations and create barriers to care.

## ***Economic Stability***

When financial resources are limited, this can create poor nutrition, unstable housing, and difficulty in affording healthcare services. These can all increase risk and hinder treatment for hepatitis.

## ***Education and Health Literacy***

Lower education levels can result in reduced health literacy. This makes it harder for individuals to understand their hepatitis diagnosis and treatment options.

## ***Substance Use and Incarceration***

Injection drug use is a known risk factor for hepatitis transmission. Substance use disorder and incarceration can create a cycle of increased exposure and reduced access to care.

It is important for public health and community stakeholders to understand the context of SDOH. These factors can play a role in why higher rates of hepatitis are seen in certain populations.



## Methods and Limitations

Data in this report are presented primarily as counts of cases or as incidence rates per 100,000 persons. Incidence rates are the number of new cases of a disease within a specified time period divided by the total population at risk in that time period. When the term “rate” is used alone, it can be assumed to be an incidence rate. Rates were calculated by using population estimates from the [2023 American Community Survey \(ACS\) 5-Year Estimates Data Profiles](#). These estimates can be found online at [DP05: ACS Demographic and ... - Census Bureau Table](#).

Data reflect counts and rates for Cuyahoga County residents living in the Cuyahoga County Board of Health (CCBH) jurisdiction only and do not include the City of Cleveland. Data were calculated using event date which is the earliest date associated with the case, usually the onset date.

Case data were obtained from the Ohio Disease Reporting System (ODRS). Data includes confirmed and probable cases based on case definitions determined by the Centers for Disease Control and Prevention (CDC). These case definitions can be found online at [Surveillance Case Definitions for Current and Historical Conditions](#). Additional information regarding Ohio case definitions is available from the Ohio Department of Health (ODH) Infectious Disease Control Manual (IDCM). The IDCM can be found online at [Infectious Disease Control Manual \(IDCM\) | Ohio Department of Health](#).

*The data presented in this report should be interpreted with respect to the following limitations:*

- It is known that diseases are often underreported since some cases do not always seek medical attention. The disease counts presented in this report are only reported cases, which is an underestimate of the amount of true disease. The amount of underreporting likely varies by disease.*
- Counts and rates are subject to random variation and often fluctuate from year to year. This is especially the scenario when counts are very low. As the count decreases so does the stability of the rate. Thus rates can become unstable and need to be interpreted with caution.*
- Some demographic data may be incomplete. Thus, it may not always be possible to include reported cases in specific demographic analyses such as by age, gender, race and/or ethnicity. When age, gender, race or ethnicity for a case was missing or unknown, that case may not be reflected in the corresponding graph.*



## Methods and Limitations

- *Different dates may be used to classify the case year as mentioned above. Specifically, event date was used which is the earliest date associated with the case and usually the onset date. However, onset date was not always available. When unavailable, other dates such as specimen collection date and date of diagnosis were used as substitutes.*

For questions about this report, e-mail CCBH at [epi@ccbh.net](mailto:epi@ccbh.net).



# Acute Hepatitis B

Incidence

Number of People Reported with Acute Hepatitis B 2020-2024

**14**

Rate of Acute Hepatitis B 2020-2024

**1.57**  
per 100,000 people

Figure 1.1 Incidence of Acute Hepatitis B, 2020-2024

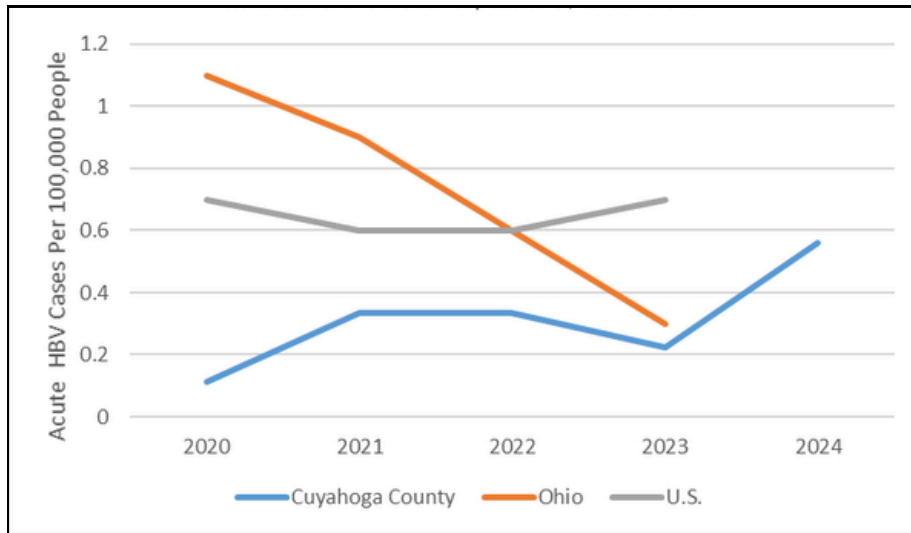


Table 1.1 Incidence of Acute Hepatitis B, 2020-2024

Year	Cuyahoga County Cases	Cuyahoga County (Rate per 100,000)	Ohio (Rate per 100,000)	U.S. (Rate per 100,000)
2020	1	0.1	1.1	0.7
2021	3	0.3	0.9	0.6
2022	3	0.3	0.6	0.6
2023	2	0.2	0.3	0.7
2024	5	0.6	NA*	NA*

Incidence rates of acute hepatitis B in Cuyahoga County during 2020-2023 were lower than state and national trends. \*State and national data for 2024 were not available at the time of this report.



# Acute Hepatitis B

## Sex and Race/Ethnicity

Figure 1.2 Acute Hepatitis B Cases by Sex in Cuyahoga County, 2020-2024

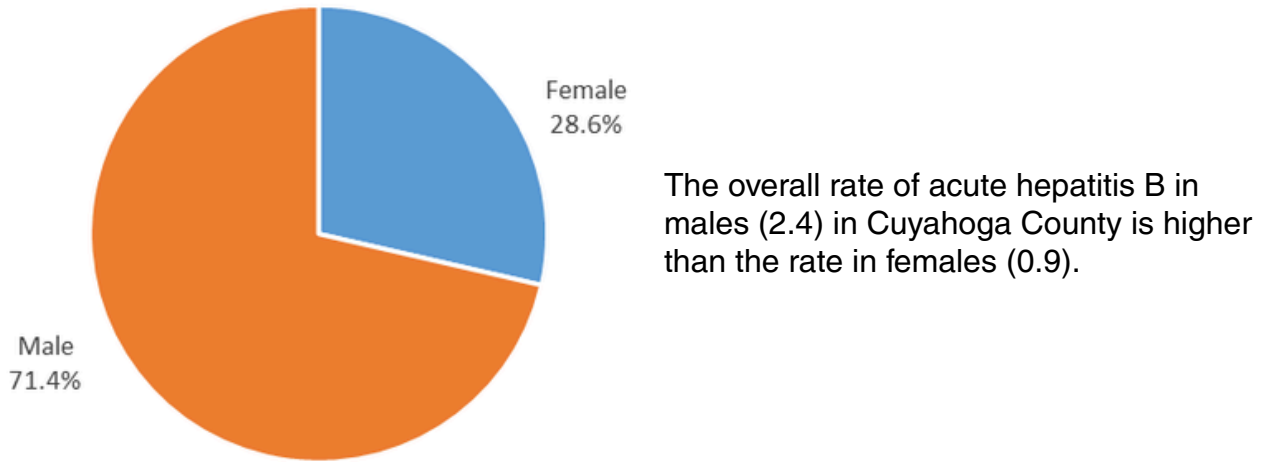
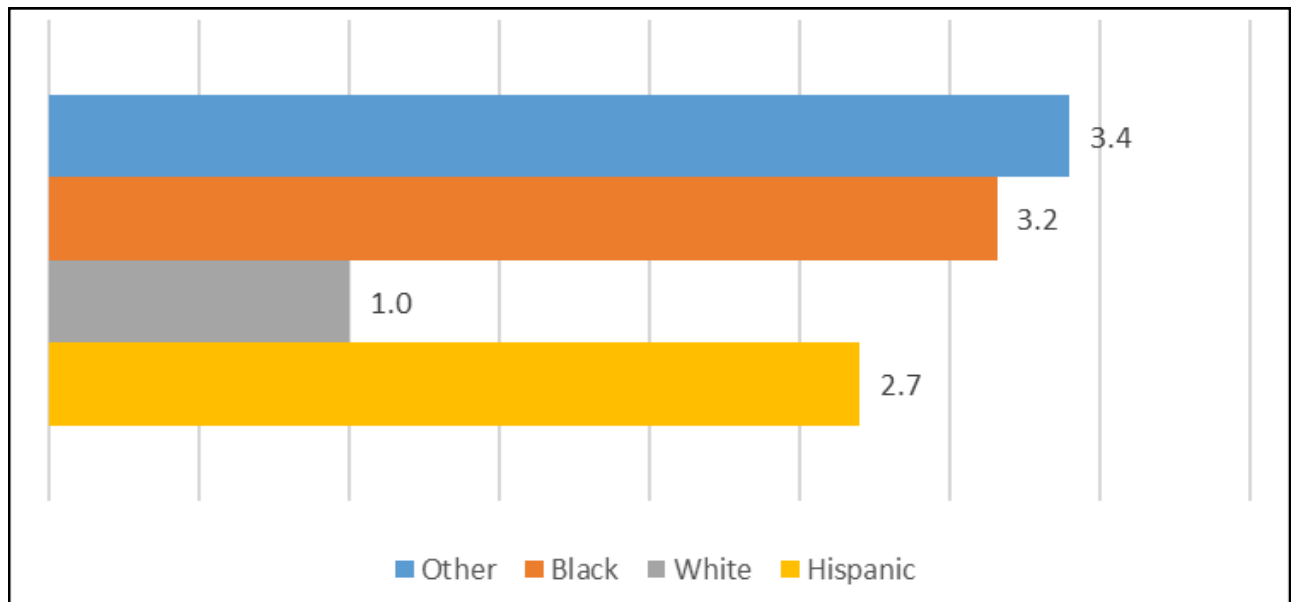


Figure 1.3 Incidence of Acute Hepatitis B by Race and Ethnicity, Cuyahoga County, 2020-2024



Persons who classify as “Other” had the highest incidence rate of acute hepatitis B infection in Cuyahoga County in 2020-2024. “Other” also includes those persons who reported race as multiple races. The incidence rate in Black persons represented the second highest incidence rate in Cuyahoga County. According to the CDC, 2022 rates of acute hepatitis B were highest among non-Hispanic Black people.



# Acute Hepatitis B

## Risk Behaviors

Table 1.4a Completeness of Acute Hepatitis B Reports by Risk Behavior, Cuyahoga County, 2020-2024

Risk Behavior	Completed
Contact of Person with Hepatitis B	79%
Used Street Drugs	93%
Used Street Drugs but Did Not Inject	79%
Hemodialysis	79%
Accidental Needle Stick	71%
Received Blood Products	71%
Employed in Medical Field	79%
Employed as Public Safety Officer	79%
Received a Tattoo	71%
Any Part of Body Pierced (other than ear)	71%
Oral Surgery or Dental Work	71%
Other Surgery	79%
Incarceration Longer Than 24 hours	79%
Incarceration Longer Than 6 months	64%
Resident of a Long Term Care Facility	79%
Ever Treated For a STI	79%

Table 1.4a shows the percentage of acute HBV risk behavior questions that were completed by CCBH communicable disease investigators in the Ohio Disease Reporting System (ODRS). A risk behavior was considered completed if the question was marked as "Yes," "No," or "Unknown."

Table 1.4b Response of Completed Acute Hepatitis B Reports\* by Risk Behavior, Cuyahoga County, 2020-2024

Risk Behavior	Yes*	No*	Unknown*
Contact of Person with Hepatitis B	18%	73%	9%
Used Street Drugs	23%	77%	0%
Used Street Drugs but Did Not Inject	9%	73%	18%
Hemodialysis	0%	82%	18%
Accidental Needle Stick	0%	60%	40%
Received Blood Products	10%	70%	20%
Employed in Medical Field	9%	73%	18%
Employed as Public Safety Officer	0%	82%	18%
Received a Tattoo	10%	80%	10%
Any Part of Body Pierced (other than ear)	0%	90%	10%
Oral Surgery or Dental Work	20%	60%	20%
Other Surgery	18%	64%	18%
Incarceration Longer Than 24 hours	18%	64%	18%
Incarceration Longer Than 6 months	11%	56%	33%
Resident of a Long Term Care Facility	9%	82%	9%
Ever Treated For a STI	18%	55%	27%

\*Percentages calculated based upon those who completed the field; excludes missing data.



# Chronic Hepatitis B

## Incidence

**Number of People  
Newly Reported with  
Chronic Hepatitis B  
2020-2024**

**527**

**Rate of Newly  
Reported Chronic  
Hepatitis B  
2020-2024**

**59.07**  
per 100,000 people

Figure 2.1 Chronic Hepatitis B Cases per 100,000 Persons, 2020-2024

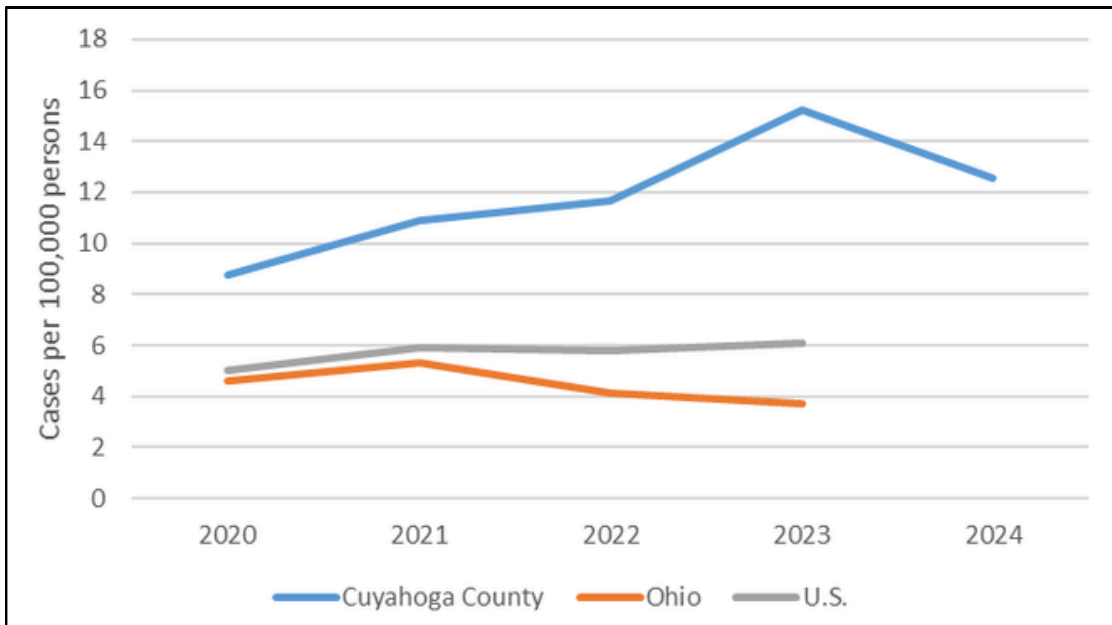


Table 2.1 Chronic Hepatitis B Cases per 100,000 Persons, 2020-2024

Year	Cuyahoga County Cases	Cuyahoga County (Rate per 100,000)	Ohio (Rate per 100,000)	U.S. (Rate per 100,000)
2020	78	8.7	4.6	5.0
2021	97	10.9	5.3	5.9
2022	104	11.7	4.1	5.8
2023	136	15.2	3.7	6.1
2024	112	12.6	NA*	NA*

Incidence rates of chronic hepatitis B in Cuyahoga County during 2020-2023 were higher than state and national trends. \*State and national data for 2024 were not available at the time of this report.



# Chronic Hepatitis B

## Sex

Figure 2.2 Number of Chronic Hepatitis B Cases by Sex, Cuyahoga County, 2020-2024

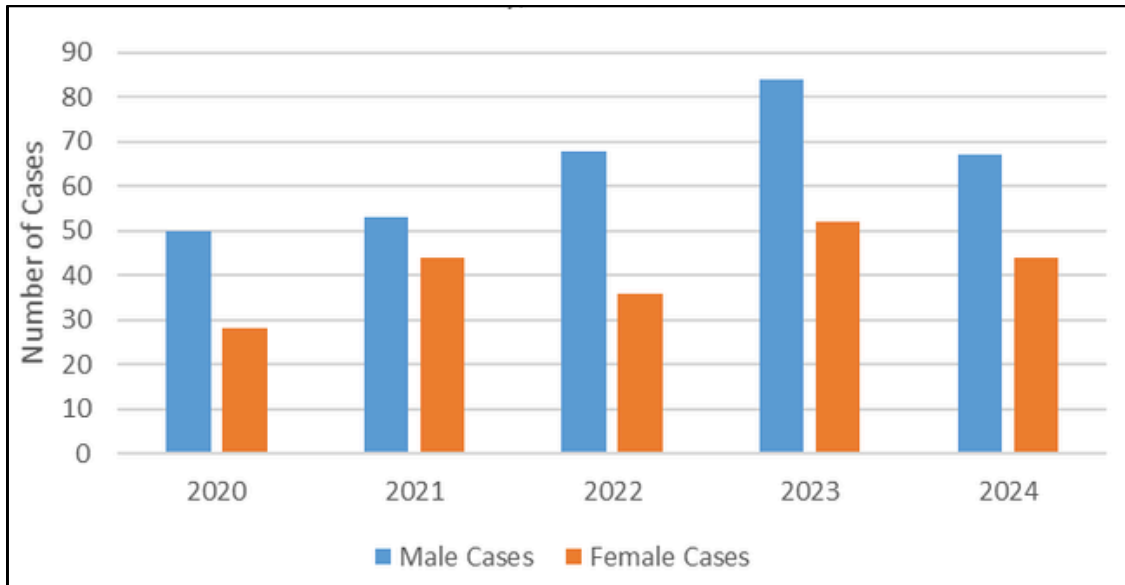


Table 2.2 Chronic Hepatitis B Cases per 100,000 Population by Sex, Cuyahoga County, 2020-2024

Year	Male Cases	Male Incidence	Female Cases	Female Incidence
2020	50	11.9	28	6.1
2021	53	12.6	44	9.6
2022	68	16.1	36	7.8
2023	84	19.9	52	11.3
2024	67	15.9	44	9.6

The rate of chronic hepatitis B in males in Cuyahoga County has remained higher than the rate in females since 2020.



# Chronic Hepatitis B

## Race and Ethnicity

Figure 2.3 Chronic Hepatitis B Cases per 100,000 by Race and Ethnicity, Cuyahoga County, 2020-2024

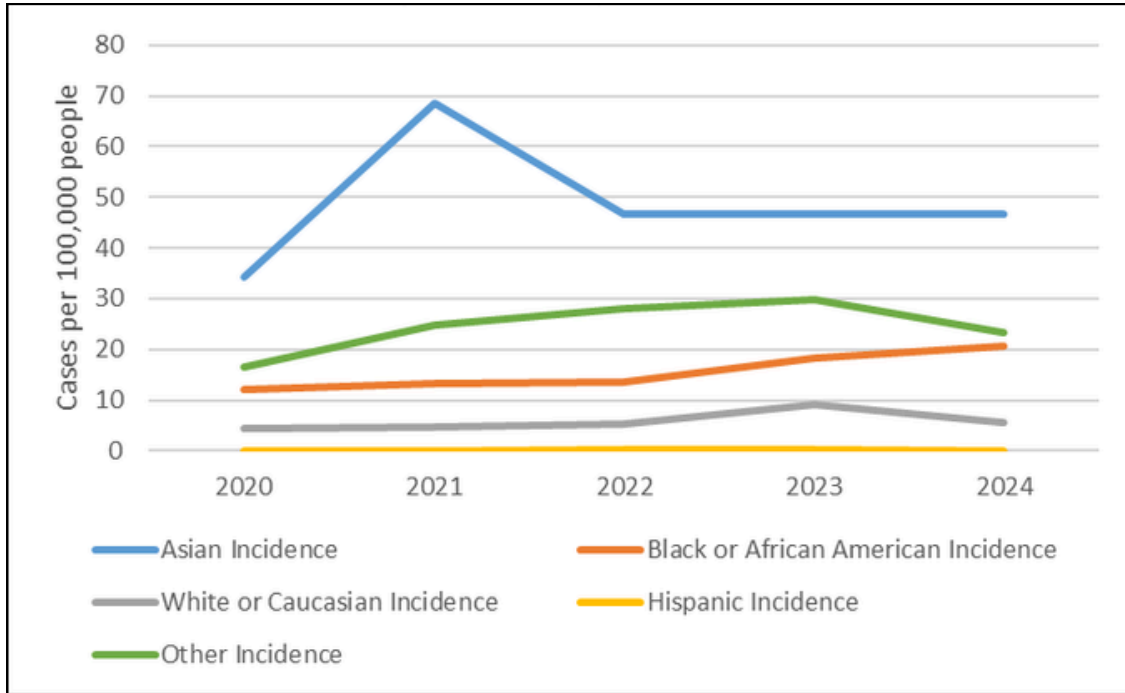


Table 2.3 Chronic Hepatitis B Cases per 100,000 by Race and Ethnicity, Cuyahoga County, 2020-2024

Year	Asian Cases	Asian Incidence	Black or African American Cases	Black or African American Incidence	White or Caucasian Cases	White or Caucasian Incidence	Hispanic Cases	Hispanic Incidence	Other Cases	Other Incidence
2020	11	34.3	23	12.1	27	4.5	0	0.0	10	16.6
2021	22	68.5	25	13.2	28	4.7	0	0.0	15	24.8
2022	15	46.7	26	13.7	32	5.3	1	0.3	17	28.1
2023	15	46.7	35	18.4	54	9.0	1	0.3	18	29.8
2024	15	46.7	39	20.5	33	5.5	0	0.0	14	23.2

Persons who classify as Asian had the highest incidence rate of chronic hepatitis B infection in Cuyahoga County in 2020-2024. According to the CDC, 2022 rates of chronic hepatitis B were highest among non-Hispanic Asian and Pacific Islander people.



# Acute Hepatitis C

Incidence

Number of People Reported with Acute Hepatitis C 2020-2024

**21**

Rate of Acute Hepatitis C 2020-2024

**2.35**  
per 100,000 people

Figure 3.1 Incidence of Acute Hepatitis C, 2020-2024

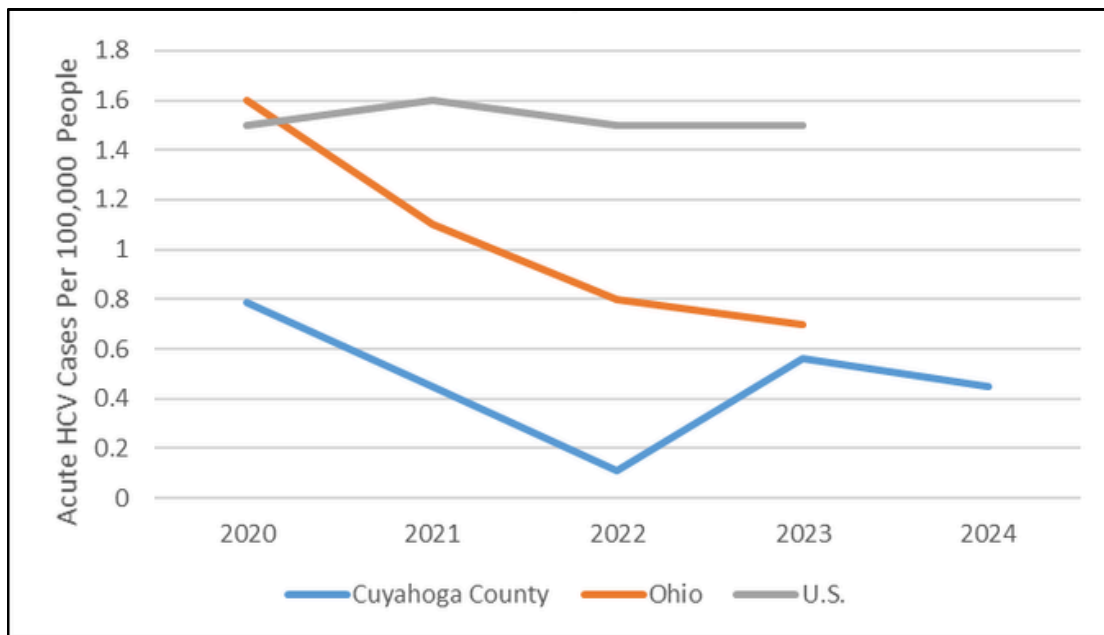


Table 3.1 Incidence of Acute Hepatitis C, 2020-2024

Year	Cuyahoga County Cases	Cuyahoga County (Rate per 100,000)	Ohio (Rate per 100,000)	U.S. (Rate per 100,000)
2020	7	0.8	1.6	1.5
2021	4	0.4	1.1	1.6
2022	1	0.1	0.8	1.5
2023	5	0.6	0.7	1.5
2024	4	0.4	NA*	NA*

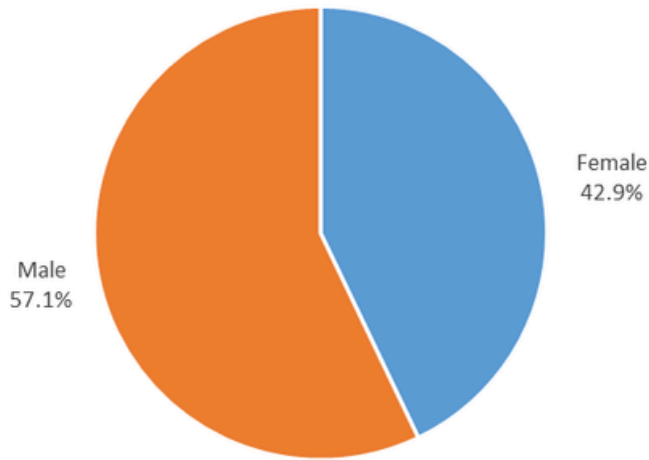
Incidence rates of acute hepatitis C in Cuyahoga County during 2020-2023 were lower than state and national trends. \*State and national data for 2024 were not available at the time of this report.



# Acute Hepatitis C

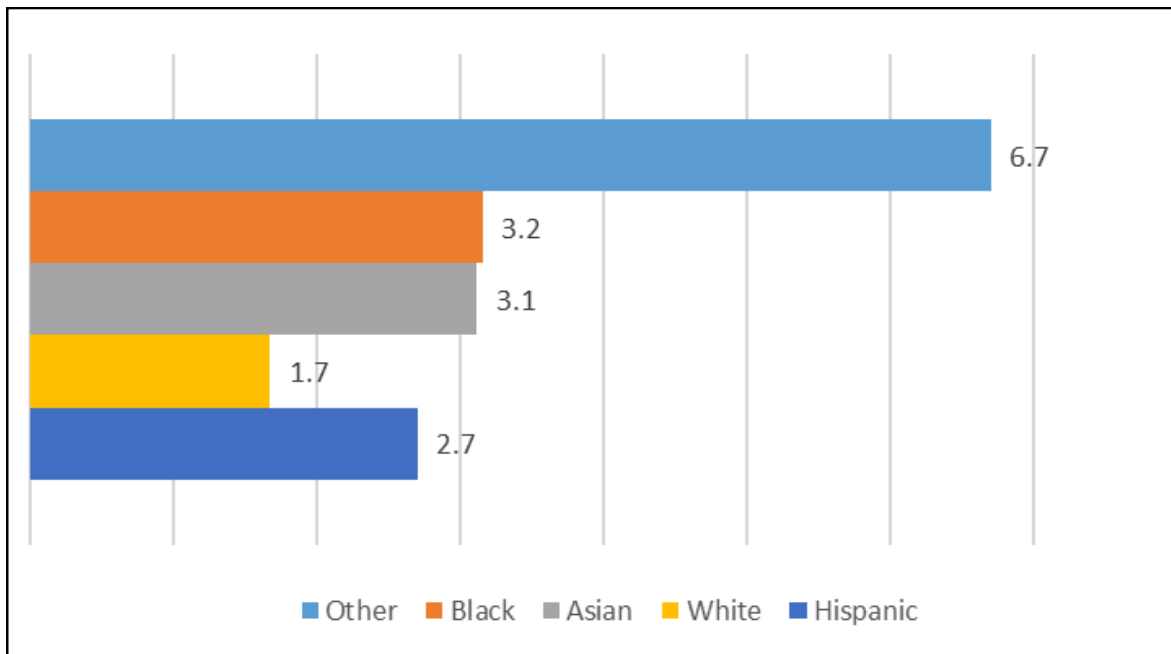
## Sex and Race/Ethnicity

Figure 3.2 Acute Hepatitis C Cases by Sex, Cuyahoga County, 2020-2024



The overall rate of acute hepatitis C in males (2.8) in Cuyahoga County is slightly higher than the rate in females (2.0).

Figure 3.3 Incidence of Acute Hepatitis C by Race and Ethnicity, Cuyahoga County, 2020-2024



Persons who classify as “Other” had the highest incidence rate of acute hepatitis C infection in Cuyahoga County in 2020-2024. “Other” also includes those persons who reported race as multiple races. According to the CDC, 2022 rates of acute hepatitis C were highest among non-Hispanic American Indian/Alaska Native people. However, the CCBH did not receive any reports of acute hepatitis C in individuals who classify as American Indian/Alaska Native during 2020-2024.



# Acute Hepatitis C

## Risk Behaviors

Table 3.4a Completeness of Acute Hepatitis C Reports by Risk Behavior, Cuyahoga County, 2020-2024

Risk Behavior	Completed
Contact of Person with Hepatitis C	76%
Used Street Drugs	33%
Used Street Drugs but Did Not Inject	33%
Hemodialysis	33%
Accidental Needle Stick	24%
Received Blood Products	24%
Employed in Medical Field	24%
Employed as Public Safety Officer	24%
Received a Tattoo	24%
Any Part of Body Pierced (other than ear)	24%
Oral Surgery or Dental Work	24%
Other Surgery	29%
Incarceration Longer Than 24 hours	29%
Incarceration Longer Than 6 months	24%
Resident of a Long Term Care Facility	29%
Ever Treated For a STI	33%

Table 3.4a shows the percentage of acute HCV risk behavior questions that were completed by CCBH communicable disease investigators in the Ohio Disease Reporting System (ODRS). A risk behavior was considered completed if the question was marked as "Yes," "No," or "Unknown."

Table 3.4b Response of Completed Acute Hepatitis C Reports\* by Risk Behavior, Cuyahoga County, 2020-2024

Risk Behavior	Yes*	No*	Unknown*
Contact of Person with Hepatitis C	94%	0%	6%
Used Street Drugs	0%	71%	29%
Used Street Drugs but Did Not Inject	0%	71%	29%
Hemodialysis	29%	71%	0%
Accidental Needle Stick	0%	60%	40%
Received Blood Products	0%	100%	0%
Employed in Medical Field	0%	100%	0%
Employed as Public Safety Officer	0%	100%	0%
Received a Tattoo	0%	60%	40%
Any Part of Body Pierced (other than ear)	0%	60%	40%
Oral Surgery or Dental Work	0%	60%	40%
Other Surgery	67%	33%	0%
Incarceration Longer Than 24 hours	0%	100%	0%
Incarceration Longer Than 6 months	0%	100%	0%
Resident of a Long Term Care Facility	0%	100%	0%
Ever Treated For a STI	29%	71%	0%

\* Percentages calculated based upon those who completed the field; excludes missing data.



# Acute Hepatitis C

## Risk Behaviors

Of the 94% who reported “Yes” to “Contact of Person with Hepatitis C”, 93% (n=14) reported receiving an organ transplant from a hepatitis C positive donor.

In 2020, the U.S. Public Health Service published updated guidelines for “Assessing Solid Organ Donors and Monitoring Transplant Recipients for Human Immunodeficiency Virus, Hepatitis B Virus, and Hepatitis C Virus Infection” ([Assessing Solid Organ Donors and Monitoring Transplant Recipients for Human Immunodeficiency Virus, Hepatitis B Virus, and Hepatitis C Virus Infection — U.S. Public Health Service Guideline, 2020 | MMWR](#)). These updated guidelines include considerations for organ transplant from a HCV-positive donor to a HCV-negative recipient.

Because hepatitis C can be cured, individuals in need of an organ transplant can choose to receive an organ from a HCV-positive donor. Treatment for hepatitis C has come a long way over the years. The current treatment includes oral medications called direct-acting antivirals (DAAs). They are easy to take and have very few side effects. More than 95% of people who take DAAs are cured in just 8-12 weeks. Therefore, if an organ transplant recipient should become hepatitis C positive, treatment for cure can be offered.

Since most of the acute hepatitis C cases that occurred in Cuyahoga County during 2020-2024 were the known result of an organ transplant, the CCBH CDI team did not conduct a complete exposure history with these cases. This resulted in lower percentages of completeness in Table 3.4a.



# Chronic Hepatitis C

## Incidence

**Number of People  
Newly Reported  
with Chronic  
Hepatitis C  
2020-2024**

**2,122**

**Rate of Newly  
Reported  
Chronic  
Hepatitis C  
2020-2024**

**237.84**  
per 100,000 people

Figure 4.1 Chronic Hepatitis C Cases per 100,000 Persons, 2020-2024

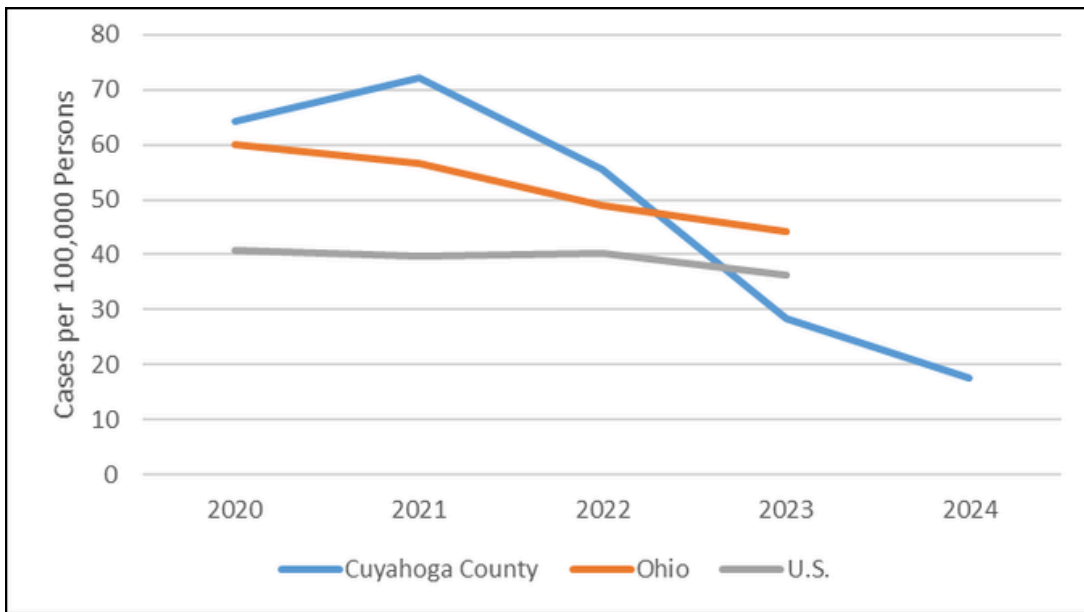


Table 4.1 Chronic Hepatitis C Cases per 100,000 Persons, 2020-2024

Year	Cuyahoga County Cases	Cuyahoga County (Rate per 100,000)	Ohio (Rate per 100,000)	U.S. (Rate per 100,000)
2020	573	64.2	60.1	40.7
2021	643	72.1	56.5	39.8
2022	496	55.6	49.0	40.2
2023	254	28.5	44.3	36.2
2024	156	17.5		

Incidence rates of chronic hepatitis C in Cuyahoga County during 2020-2022 were higher than state and national trends; however, in 2023 the rate significantly decreased and was lower than state and national rates. \*While state and national data for 2024 were not available at the time of this report, the rate in Cuyahoga County continued to decrease.



# Chronic Hepatitis C

## Sex

Figure 4.2 Number of Chronic Hepatitis C Cases by Sex, Cuyahoga County, 2020-2024

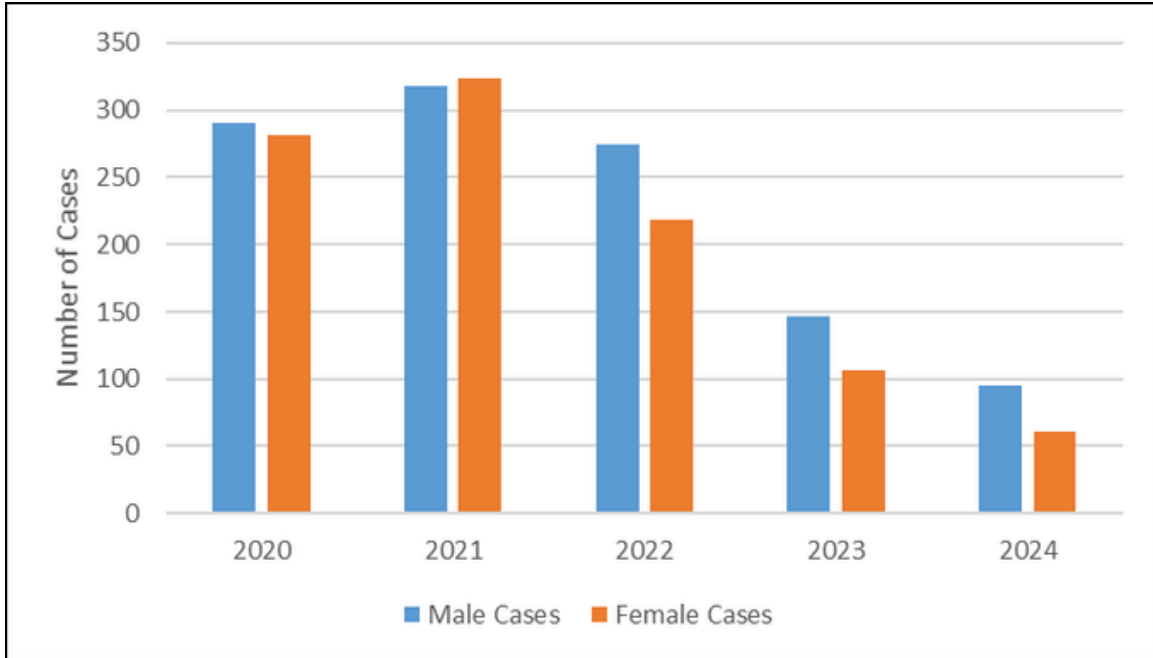


Table 4.2 Chronic Hepatitis C Cases per 100,000 Population by Sex, Cuyahoga County, 2020-2024

Year	Male Cases	Male Incidence	Female Cases	Female Incidence
2020	291	69.0	281	61.0
2021	318	75.4	324	70.4
2022	274	65.0	218	47.4
2023	146	34.6	107	23.2
2024	95	22.5	61	13.3

Males accounted for more chronic hepatitis C cases in Cuyahoga County each year since 2022. In 2020, more males were reported while in 2021, more females were reported. According to the CDC, 65% of newly reported chronic hepatitis C cases occurred among men in 2022.



# Chronic Hepatitis C

## Race and Ethnicity

Figure 4.3 Chronic Hepatitis C Cases per 100,000 by Race and Ethnicity, Cuyahoga County, 2020-2024

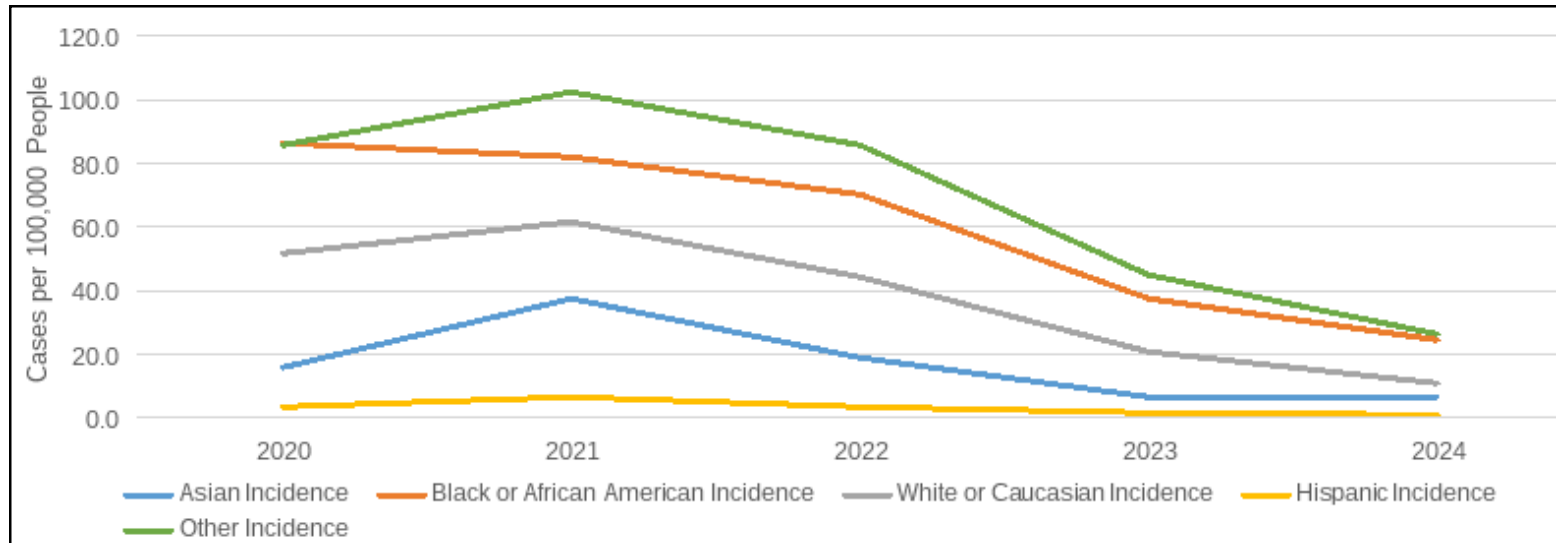


Table 4.3 Chronic Hepatitis C Cases per 100,000 by Race and Ethnicity, Cuyahoga County, 2020-2024

Year	American Indian or Alaskan Native Cases	American Indian or Alaskan Native Incidence	Asian Cases	Asian Incidence	Black or African American Cases	Black or African American Incidence	Hawaiian Native or Pacific Islander Cases	Hawaiian Native or Pacific Islander Incidence	White or Caucasian Cases	White or Caucasian Incidence	Hispanic Cases	Hispanic Incidence	Other Cases	Other Incidence
2020	2	195.9	5	15.6	164	86.3	0	0.0	310	51.7	13	3.4	50	84.2
2021	1	97.9	12	37.4	156	82.1	0	0.0	369	61.6	24	6.4	61	102.7
2022	0	0.0	6	18.7	133	70	1	463.0	265	44.2	12	3.2	51	85.9
2023	0	0.0	2	6.2	71	37.3	1	463.0	125	20.9	5	1.3	29	48.8
2024	1	97.9	2	6.2	46	24.2	0	0.0	65	10.9	3	0.8	15	25.3

Persons who classify as “Other” had the highest incidence rate of chronic hepatitis C infection in Cuyahoga County in 2020-2024. “Other” also includes those persons who reported race as American Indian/Alaska Native, Hawaiian Native/Pacific Islander or multiple races. According to the CDC, in 2022 the rate of newly reported chronic hepatitis C cases was highest among non-Hispanic American Indian/Alaska Native persons at 104.8 per 100,000 people. The overall rate for this population in Cuyahoga County during 2020-2024 was 391.8 per 100,000 people.



## References

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["2022 Viral Hepatitis Surveillance Report."](#) Centers for Disease Control and Prevention. 2022 Viral Hepatitis Surveillance Report | 2022 Hepatitis Surveillance | CDC

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