

New York State Department of Health



Hepatitis B and C

Annual Report 2023

Surveillance, Prevention, Programs and Special Projects
Bureau of Hepatitis Health Care and Epidemiology, AIDS Institute



**Department
of Health**

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BACKGROUND

Viral hepatitis refers to a viral infection that affects the liver. There are at least five different types of viral hepatitis (A-E). The most common types of viral hepatitis in the United States are hepatitis A, hepatitis B, and hepatitis C. These viruses can cause a short-term (acute) illness characterized by fever, nausea, abdominal pain, malaise, and jaundice; however, in some cases, these acute infections are mild or do not cause any symptoms.

Hepatitis A virus is usually spread when a person ingests fecal matter - even in microscopic amounts - from objects, food, or drinks contaminated by feces from an infected person. Hepatitis A infections do not become long-term (chronic).

In contrast, [hepatitis B](#) and [hepatitis C](#) are blood-borne pathogens which can cause lifelong, chronic infections without symptoms. Many people with chronic hepatitis B or hepatitis C do not know that they are infected. Eventually, chronic hepatitis B or hepatitis C infection can cause cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. Hepatitis B and hepatitis C are the leading causes of liver cancer and a common reason for liver transplantation in the United States.

Hepatitis B virus (HBV) is transmitted through contact with blood or body fluids from an infected person, most often through sexual contact; sharing drug injection equipment such as needles, syringes, or other works; sharing razors or medical equipment such as glucometers; or from an infected person to their infant during birth (perinatal transmission). Transmission can also occur through close contact with an infected person (e.g., household contact) or when health care infection control is inadequate. The risk for a hepatitis B infection becoming chronic becomes lower with age: approximately 90% of infants infected at birth, 30% of children infected at age 1-5, and 5% of persons infected as adults will become chronically infected. Infants born to people with HBV can be given prophylactic treatment at birth to prevent infection, and the Centers for Disease Control and Prevention (CDC) recommends vaccination of all infants at birth, unvaccinated children younger than 19 years of age, adults aged 19-59 years, and adults aged 60 years and older with risk factors who had not already been vaccinated. Most adults are infected through sex with an infected person. People with chronic hepatitis B can be treated with medications that cause viral suppression and reduce liver damage but typically need to take medication for life.

Hepatitis C virus (HCV) is transmitted most often through contact with blood from an infected person, such as through sharing drug injection equipment, including needles, syringes, or other works; sharing equipment used to snort drugs; needlestick injuries involving blood; receiving blood transfusions or blood products prior to the availability of blood supply screening in 1992; and inadequate infection control in health care settings. Less often, HCV can be transmitted through sexual contact or during birth from an infected person to the infant. Perinatal transmission occurs in approximately 6-12% of hepatitis C infected persons that are pregnant. The best way to prevent infection is to avoid behaviors that can spread the disease such as sharing injection drug use (IDU) equipment. About 75-85% of newly infected people do not spontaneously clear HCV from their body and develop chronic infection. People with hepatitis C can be treated with medications that can cure >90% of people after 8-12 weeks of therapy.

TECHNICAL NOTES

Reporting of communicable diseases is mandated under the NYS Sanitary Code (10NYCRR 2.10). The New York State Department of Health (NYSDOH) requires health care providers, laboratories, and others to report suspected and confirmed cases of communicable disease, including viral hepatitis, to the local health department (LHD) where the patient resides. The LHDs conduct investigations and, for the 57 counties located outside of New York City (NYC), report case data to the NYSDOH via the Communicable Disease Electronic Surveillance System (CDESS). A large majority of investigations are triggered by receipt of clinical laboratory reports, which are electronically transmitted from laboratories to the NYSDOH through the Electronic Clinical Laboratory Reporting System (ECLRS). Laboratories report all positive markers of viral hepatitis infection to ECLRS. Since 2016, negative tests for HCV RNA are also reportable. Laboratories are also asked to report other negative hepatitis results and the results of liver enzyme assays (e.g., alanine aminotransferase (ALT)) associated with positive reportable hepatitis results. In addition to patient name and date of birth, laboratories often report additional demographic information such as sex or race.

Case investigation involves case ascertainment, case classification, and the collection, when available, of demographic, clinical, and exposure or risk factor information.

Case Definitions, Ascertainment, and Classification

Case ascertainment and classification are made according to the current CDC/Council of State and Territorial Epidemiologists (CSTE) case definitions using available laboratory testing results and clinical symptoms. Cases of acute hepatitis B, chronic hepatitis B, perinatal hepatitis B, acute hepatitis C, chronic hepatitis C, and perinatal hepatitis C, are recorded in CDESS. Cases that meet the definition for a confirmed or probable case are summarized in this report.

Case definitions change from time to time. The case definitions in effect during 2023 were:

Acute hepatitis B	https://ndc.services.cdc.gov/case-definitions/hepatitis-b-acute-2012
Chronic hepatitis B	https://ndc.services.cdc.gov/case-definitions/hepatitis-b-chronic-2012
Perinatal hepatitis B	https://ndc.services.cdc.gov/case-definitions/hepatitis-b-perinatal-virus-infection-2017/
Acute hepatitis C	https://ndc.services.cdc.gov/case-definitions/hepatitis-c-acute-2020/
Chronic hepatitis C	https://ndc.services.cdc.gov/case-definitions/hepatitis-c-chronic-2020
Perinatal hepatitis C	https://ndc.services.cdc.gov/case-definitions/hepatitis-c-perinatal-infection-2018

Ascertainment of acute cases of hepatitis B follow the 2012 surveillance case definition and depend on 1) symptoms consistent with viral hepatitis along with either jaundice or an elevated ALT value, or 2) the documented conversion of a viral hepatitis test from negative to positive within a specified time frame. Chronic cases include any case that does not meet the definition for an acute case or for which symptoms or prior test results are unavailable.

Under case definitions utilized in 2023, ascertainment of acute cases of hepatitis C depends on 1) the presence of jaundice, peak elevated total bilirubin levels ≥ 3.0 mg/dL, or peak elevated serum ALT levels >200 IU/L, or 2) the documented conversion of a viral hepatitis test from negative to positive within a specified time frame. Chronic cases include any case that does not meet the definition for an acute case or for which symptoms or prior test results are unavailable. Perinatal cases must have a positive RNA or genotype test between 2 and 36 months; an epidemiologic linkage to a birth mother with hepatitis C infection, if known; and not be known to be due to a healthcare exposure.

Note that changes in standardized case definitions result in counting cases differently and can profoundly impact the number of cases reported in each year. The new 2020 case definitions for acute and chronic hepatitis C were meant to improve identification of acute hepatitis C cases. Case definitions for 2016 were substantially different from the previous case definition. Consequently, comparing counts or rates of hepatitis C cases reported during 2016-2019 and 2020-2023 to those reported during 2015 and earlier years should be done with caution.

Variable Definitions

Case Year: Cases are recorded in the year during which the case was first reported, typically the year during which the first positive laboratory test for the patient was electronically reported to NYSDOH.

Sex at birth, Gender identity, and Sexual Orientation: Sex at birth is defined as male, female, or unknown/missing. Sex at birth, obtained from the laboratory report is known for >99% of cases. Surveillance data collection forms allow for the collection of gender identity for cases of hepatitis C and sexual orientation for acute cases of hepatitis B and C during patient or provider interviews conducted during case investigations. However, due to the high volume of reporting, case investigations of chronic hepatitis are often not feasible. Therefore, data on gender identity and sexual orientation is very limited.

Race and Ethnicity: For surveillance data, race and ethnicity are recorded separately. For this report, races are White, Black, Asian/Pacific Islander, American Indian/Alaska Native, and other -race not specified, or unknown/missing. Ethnicities are Hispanic, non-Hispanic, and unknown/missing. Race and ethnicity are not required variables for laboratory reporting, and health care provider reporting of race and ethnicity is incomplete. A large percentage of cases, particularly chronic cases, are missing this information, and caution should be used when evaluating race and ethnicity patterns.

Case county: The case county is typically the county in which the patient resided at the time the case was first reported. Cases identified among persons incarcerated upon intake screening at NYS Department of Corrections and Community Supervision (DOCCS) facilities are assigned to the county where the intake facility is located rather than the county where the patient resided prior to incarceration. To avoid overrepresenting cases in counties and regions with DOCCS intake facilities, cases among persons incarcerated in DOCCS are excluded from county and region-level data. However, persons incarcerated at county jails are included in these geographic summaries.

Region: Program areas within NYSDOH define regions of the state differently. The regions presented here are grouped by Ryan White HIV/AIDS Program service areas. There are four Communicable Disease Surveillance Regions: Western, Central, Capital, and Metropolitan. Ryan White regions further subdivide the Western region into Western/Buffalo and Finger Lakes/Rochester regions, Central NY into Central/Syracuse and NY Penn/Binghamton regions, and the Metropolitan region into Lower Hudson Valley, Mid-Hudson Valley, and Nassau/Suffolk regions.

Crude Case Rates: 2020 Population census counts are used as denominators for overall case rates per 100,000 and rates by geographic area, age, sex for the years 2012-2023.¹

Risk Factor Information

Risk factor information is collected by LHDs during case investigation when available. Methods of data collection vary including a standard one-page survey of the patient's health care provider, phone interview with the health care provider, medical record review, review of records in the NYS Immunization Information System (NYSIIS), patient interview, or proxy interview. Therefore, surveillance data quality is affected by, for example, a provider's incomplete knowledge of the patient's risks, transposition errors, misinterpretation of the question, intentionally misleading answers, recall bias, uncertain timelines, and other forms of inaccuracies.

Risk factor data are often incomplete, particularly for chronic cases. Depending on disease and risk factor, the proportion of cases with unknown or missing information can be >80%. For these reasons, caution should be taken when interpreting risk information.

For acute cases, except where noted, risk factors and exposures are determined for the 6-month period before illness onset or test conversion. For chronic cases, lifetime risk is assessed.

¹ CC-EST2021-ALLDATA-[ST-FIPS]: Annual County Resident Population Estimates by Age, Sex, Race, and Hispanic Origin: April 1, 2020 to July 1, 2021
File: 7/1/2021 County Characteristics Resident Population Estimates Source: U.S. Census Bureau, Population Division.
Release Date: June 2022.

About the Data in this Report

This report contains information about hepatitis B and hepatitis C gathered by the NYSDOH. Information about residents of NYC is excluded except where noted. NYC data are available from the NYC Department of Health and Mental Hygiene (DOHMH).

The surveillance data summarize confirmed and probable cases of acute hepatitis B, chronic hepatitis B, perinatal hepatitis B, acute hepatitis C, chronic hepatitis C, and perinatal hepatitis C in NYS (excluding NYC) reported during 2023. Trend data are also presented for cases reported during 2012 through 2023. Surveillance data for hepatitis B and hepatitis C are current as of May 2024. All surveillance data should be considered preliminary and subject to change.

Case data reflect only newly reported cases and are not intended to represent disease incidence (all new infections) nor prevalence (all persons currently infected). Data from sources other than surveillance are described in the sections in which they are presented.

This report was developed by the NYSDOH AIDS Institute, Bureau of Hepatitis Health Care and Epidemiology. For questions about this report, email NYSDOH at HepBC.Surveillance@health.ny.gov.

REPORT HIGHLIGHTS: HEPATITIS B SURVEILLANCE

Hepatitis B Surveillance

- In 2023, 2,145 cases of hepatitis B were newly reported to the NYSDOH, representing a case rate of 18.8/100,000 and an 8% increase compared to 2022. The total number of cases reported in 2023 was the highest since 2012.
- It is estimated that approximately half of people with hepatitis B are unaware of their infection status. The increasing trend in newly reported hepatitis B cases in NYS may be related to increases in hepatitis B screening among populations where hepatitis B is more common. In 2023, the CDC released updated recommendations to include: universal hepatitis B screening for all adults, testing of all pregnant people during each pregnancy, infants born to pregnant people with hepatitis B infection (i.e. with a positive hepatitis B surface antigen test result), and people with ongoing risk for exposure to hepatitis B. This screening recommendation complements the CDC's Advisory Committee on Immunization Practices' 2022 updated recommendation that the following people should be vaccinated for hepatitis B: all infants, unvaccinated children younger than 19 years of age, adults 19–59 years, and adults 60 years and older with risk factors for hepatitis B.
- In 2023, there was a 37% increase in newly reported acute hepatitis B cases, compared to 2022; and an 8% increase in chronic hepatitis B cases compared to 2022 chronic hepatitis B cases. There were no new perinatal hepatitis B cases reported in 2023.
- In 2023, the highest rates of newly reported cases of hepatitis B were among males¹ (21.3/100,000 cases) and persons aged 40 – 44 (40.2/100,000 cases).
- Forty-seven percent of females cases were of reproductive age (aged 15-44).
- Among cases with known race, 36% were among people reported as Asian/Pacific Islander. Among cases with known ethnicity, 86% were among people reported as non-Hispanic.
- In 2023, Nassau and Westchester counties had the highest number of newly reported cases of hepatitis B, with 663 and 301 cases respectively. Suffolk and Erie counties also reported a high number of cases 272, and 164 respectively. In 2023, Nassau (47.6) and Westchester (30.0) counties recorded the highest case rates per 100,000 population. Albany (23.9), Genesee (22.3), and Rockland (21.3) counties also had high case rates per 100,000 population.
- For both newly reported cases of acute and chronic hepatitis B, the most commonly reported risk factor was the lack of hepatitis B vaccination. Forty-two percent of all newly reported acute cases of hepatitis B had no history of hepatitis B vaccination, and 12% of all newly reported chronic cases of hepatitis B had no history of vaccination. Other reported risk factors included men who have sex with men, non-injection drug use, and close contact with a person with hepatitis B.

¹ Sex data represents sex at birth. Gender identity is not presented on this data report. See *Variable Definitions* on page 5.

REPORT HIGHLIGHTS: PERINATAL HEPATITIS B PREVENTION PROGRAM

- In the 57 counties outside NYC, NYSDOH implements a Perinatal Hepatitis B Prevention Program (PHBPP) consistent with CDC guidance and NYSDOH laws and regulations.
- The PHBPP enrolled 222 infants in 2022. Nearly all infants (98%) received timely post-exposure prophylaxis; 95% completed the hepatitis B vaccine series by 12 months of age, and 76% completed post-vaccination serologic testing by December 31, 2023.
- The 2023 hepatitis B vaccine birth dose rate for NYS birth hospitals (outside of NYC) was 84%. Rates, since 2012, are posted on [Health Data NY](#).

REPORT HIGHLIGHTS: HEPATITIS C SURVEILLANCE

- During 2023, 2,921 cases of hepatitis C were reported to the NYSDOH, including 9 perinatal, 207 acute, and 2,705 newly reported chronic cases. Chronic cases accounted for 93% of all newly reported cases, and acute cases for 7%. Perinatal reports accounted for less than 1% of all reports. Newly reported chronic cases decreased by 13% while newly reported acute cases, which represent a recent infection, decreased by 19% compared to 2022. The overall case rate in 2023 was 25.7/100,000.
- Case rates were highest in males¹ (32.1/100,000) and in persons 30-34 years of age (67.4/100,000).
- Although historically, the highest proportion of newly reported cases used to be among Baby Boomers (persons born between 1945-1965) in 2023, Baby Boomers represent only 25% of all newly reported cases while cases reported in persons under the age of 40 represent nearly twice as many (45%).
- Where race and ethnicity were reported, a larger proportion of individuals with hepatitis C aged 40 years or older occurred in communities of color than those aged < 40 years. In contrast, individuals with hepatitis C and who were White accounted for a larger proportion of newly reported cases aged < 40 than among those aged 40 years or older.
- Fifty-seven percent of females cases were of reproductive age (aged 15-44).
- In 2023, highest number of reported cases were in Suffolk (294) and Erie (243) counties. Nassau (198), Westchester (196), Monroe (155), and Onondaga (135) also reported high numbers of cases. The highest rates per 100,000 population were in Essex (58.9) and Chautauqua (55.7) counties. Sullivan, Ulster, Franklin, Jefferson, Broome, Warren, Cortland, Cattaraugus, and Schoharie had case rates that exceeded 40.0 per 100,000 population.
- The most commonly reported risk factors among both acute and chronic hepatitis C cases in 2023 were injection and non-injection drug use. Other common risk factors included having a history of incarceration and having close contact with a person with hepatitis C.
- Trends in case counts and rates across years should be interpreted with caution for several reasons. In 2014, the NYS Hepatitis C Testing Law was implemented resulting in an increase in testing and case reporting, especially in Baby Boomers. The surveillance case definitions for acute and chronic hepatitis C were modified in 2016 and 2020. Therefore, caution should be exercised when comparing numbers of cases of hepatitis C reported from 2012-2015, 2016-2019, and 2020-2023.
- In 2023, CDC recommended hepatitis C screening for the following: all adults age 18 and older at least once in their lifetime; all pregnant people, during each pregnancy; periodic testing for people with ongoing risk factors; and for any person who requests hepatitis C testing.

¹ Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definitions on page 5.

REPORT HIGHLIGHTS: HEPATITIS C INITIATIVES AND SPECIAL STUDIES

- In 2023, 25 agencies across the state participated in the NYS Hepatitis C Testing Program. These agencies tested 1,987 high-risk clients and identified 645 with reactive hepatitis C antibody tests who either received or were referred for follow-up hepatitis C virus ribonucleic acid (RNA) testing. The antibody reactivity rate was 32.5%.
- The NYS Hepatitis C Patient Navigation program provides funding to seven Drug User Health Hubs in upstate NY, to increase the number of hepatitis C - infected persons who inject drugs who are successfully linked to medical care and treated for hepatitis C. Between November 2018 and October 2022, the initiative enrolled 1,071 patients. Of these, 913 patients, were diagnosed with chronic hepatitis C. Of the clients enrolled, diagnosed with hepatitis C, and linked to care, 82.3% initiated treatment.
- The NYS Hepatitis C Care and Treatment Initiative funds 14 primary care-based integrated models of hepatitis C care and treatment within Article 28 health care facilities. Between June 2021 and May 2023, a total of 2,058 patients were enrolled in the initiative. Eighty-six percent of patients who were linked to care initiated treatment, and 98% of those who completed treatment and were assessed for a sustained virologic response (SVR) were found to be cured.
- The NYS Innovative Models Initiative supports hepatitis C care and treatment models that address the needs and barriers that people who inject drugs who are diagnosed with hepatitis C face when accessing hepatitis C services in traditional health care settings. From July 2019 through June 2023, three agencies, each with a different model, enrolled 308 patients in the initiative. Eighty-six percent of enrolled patients were linked to care, 85% of whom initiated treatment, and 96% of those who completed treatment and were assessed for a sustained virologic response (SVR) were found to be cured.

Hepatitis B Surveillance and Program Data

Infographic 1: Hepatitis B, Newly Reported Cases, NYS (excl. NYC), 2023



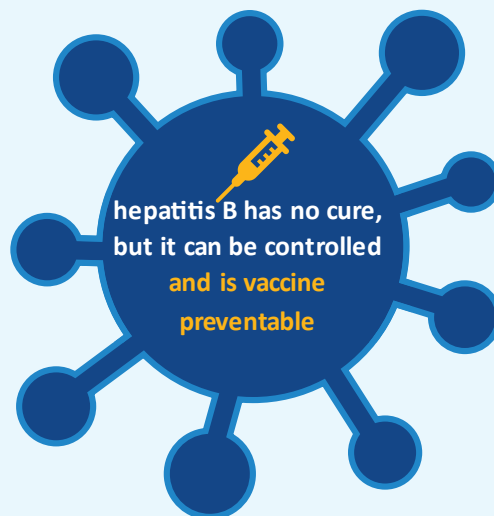
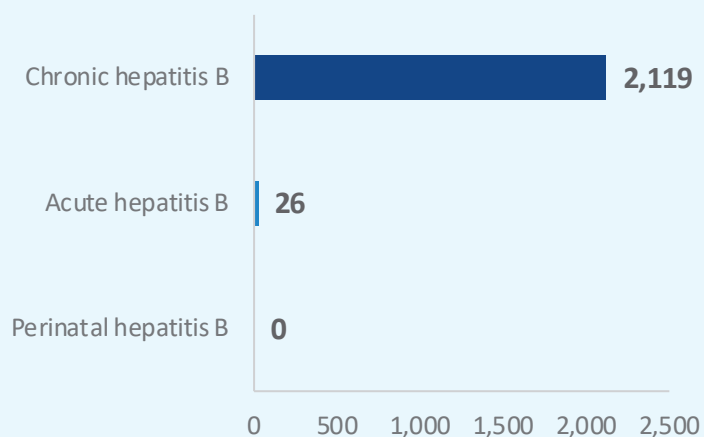
2,145

Newly reported cases of hepatitis B

18.8

cases per 100,000 pop.

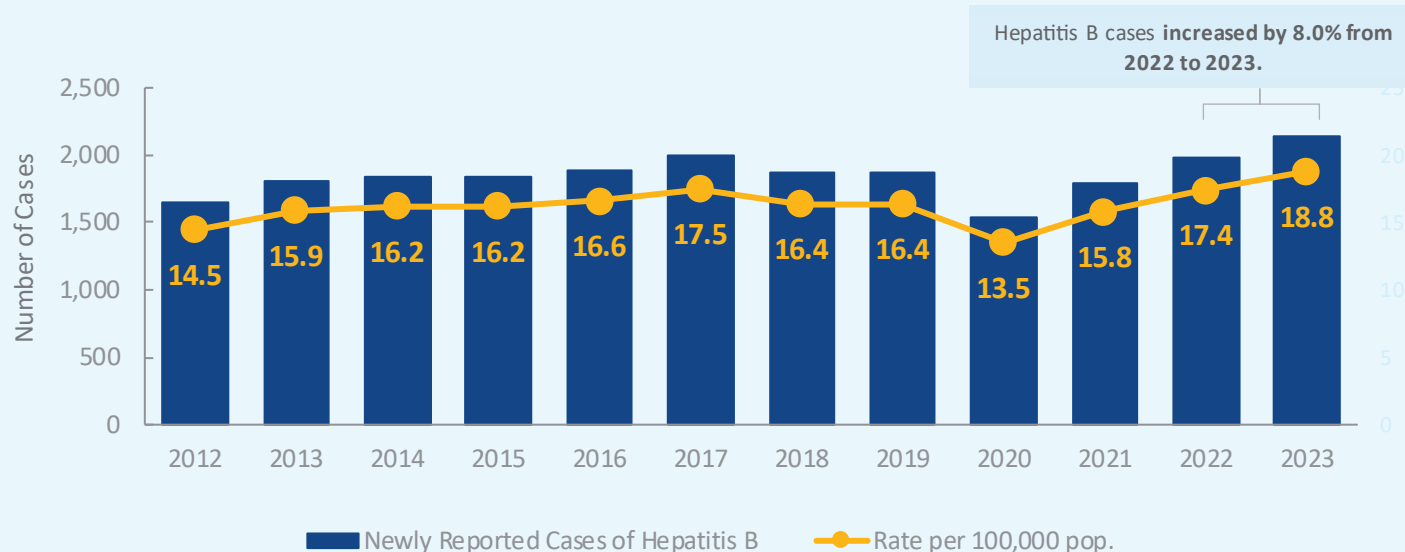
Figure 1.1: Newly Reported Acute, Chronic, and Perinatal Hepatitis B Cases, NYS (excl. NYC), 2023



In 2022, CDC’s Advisory Committee on Immunization Practices’ recommended that the following people should be vaccinated for hepatitis B: all infants, unvaccinated children younger than 19 years of age, adults 19–59 years, and adults 60 years and older with [risk factors](#) for hepatitis B. In 2023, the CDC released updated screening recommendations to include: universal hepatitis B screening for all adults, testing of all pregnant people during each pregnancy, infants born to pregnant people with hepatitis B infection, and people with ongoing risk for exposure to hepatitis B.

Figure 1.2: Newly Reported Hepatitis B Cases by Year, NYS (excl. NYC), 2012-2023

After declining from 2017 to 2020, hepatitis B cases increased from 2020 to 2023. In 2023, cases exceeded the previous peak in hepatitis B cases observed in 2017.



Notes. See *Variable Definitions* and *About Data* on page 5 in this report. Rates per 100,000 are based on 2020 US Census Data. See tables 1.1, 1.3 in the Data Appendix for additional information.

Infographic 2: Hepatitis B, Newly Reported Cases, by Sex and Age, NYS (excl. NYC), 2023

In 2023:

Newly Reported Cases in Males per 100,000 pop.:

21.3

Newly Reported Cases in Females per 100,000 pop.:

16.4

Figure 2.1: Number of Newly Reported Hepatitis B Cases by Sex and Year, NYS (excl. NYC), 2012-2023



Figure 2.2: Newly Reported Hepatitis B Cases by Sex and Age Group, NYS (excl. NYC), 2023

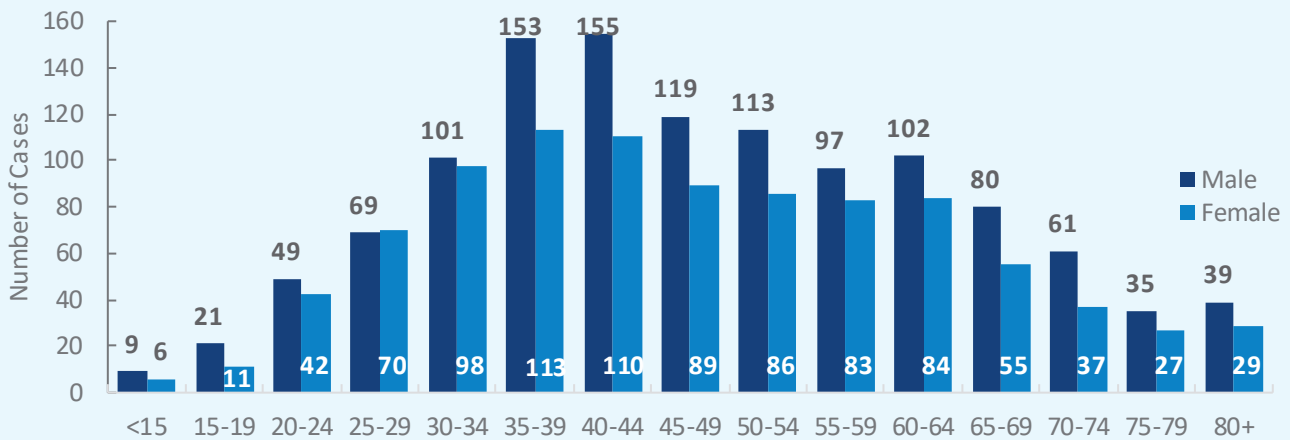
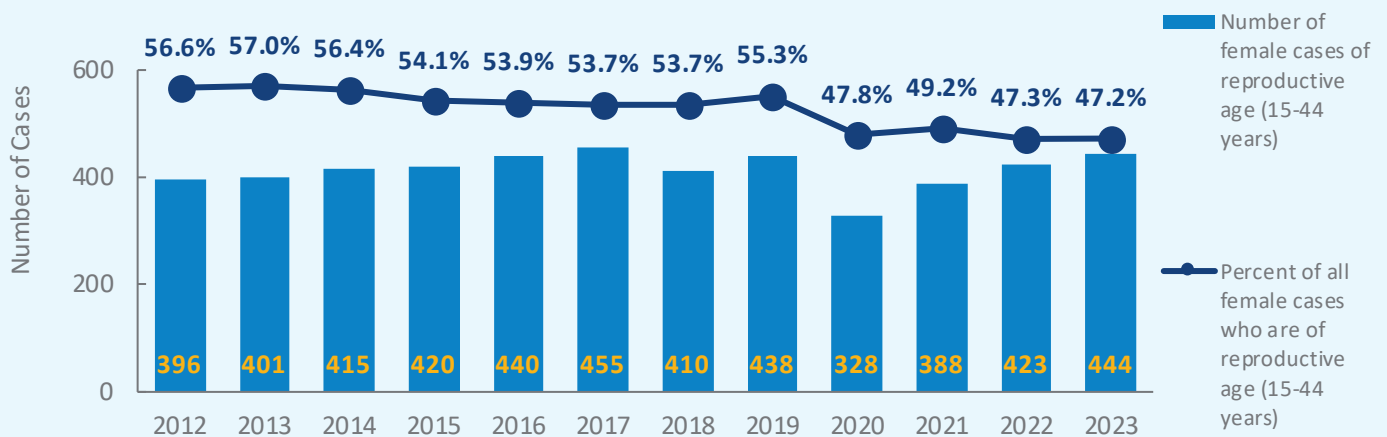


Figure 2.3: Newly Reported Hepatitis B Cases Among Females of Reproductive Age (15-44 Years), NYS (excl. NYC), 2012-2023



Although the number of newly reported hepatitis B cases among females of reproductive age has increased by approximately 35% since 2020, the percentage of females who are of reproductive age (e.g., between the ages of 15 and 44) has declined since 2019.

Notes. Sex data represents sex at birth. Gender identity is not presented in the infographics of this data report. See *Variable Definition* and *About Data* on pages 5&6. See Table 1.1, 1.2, 1.4 in the Data Appendix for additional information.

Infographic 3: Hepatitis B, Newly Reported Cases and Rates, by Region and Year, NYS (excl. NYC), 2023

Figure 3.1: Newly Reported Hepatitis B Cases and Rates per 100,000 pop. by NYS Region (excl. NYC), 2023

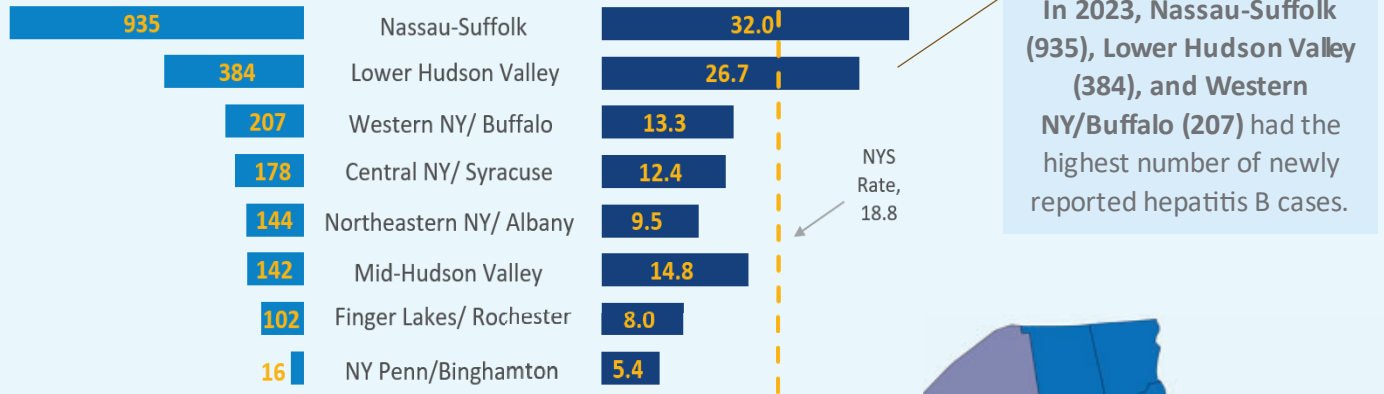


Figure 3.2: Newly Reported Hepatitis B Cases, by Region, NYS (excl. NYC), 2023

Nassau-Suffolk (32.0), Lower Hudson Valley (26.7), and Mid-Hudson Valley (14.8) had the highest case rates per 100,000 population in 2023.

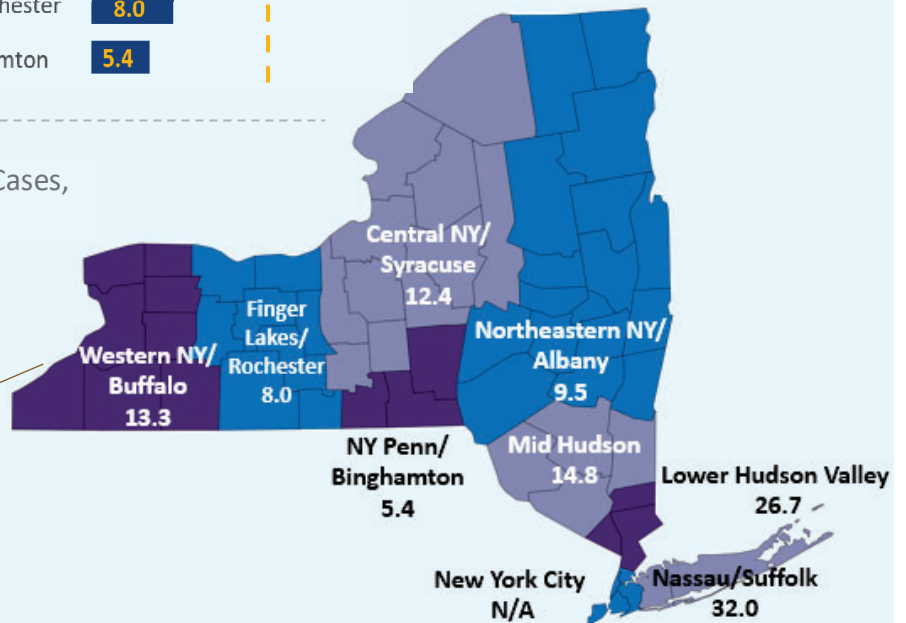
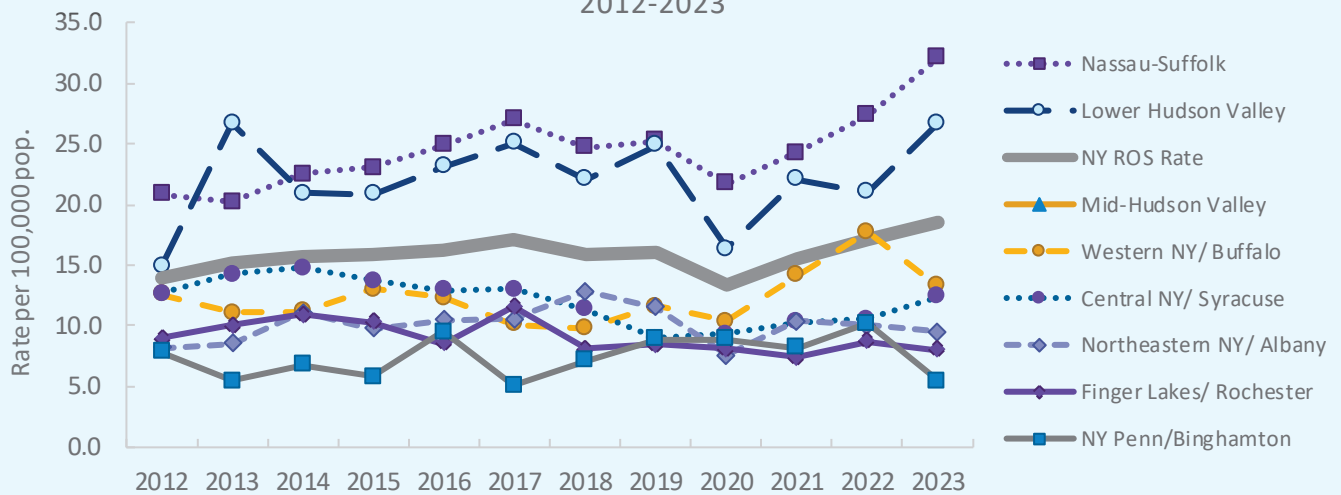


Figure 3.3: Newly Reported Hepatitis B Cases, Rate per 100,000 pop. by NYS Region (excl. NYC), 2012-2023



Since 2012, the Nassau-Suffolk and Lower Hudson Valley regions have consistently had the highest case rates of newly reported hepatitis B. From 2022 to 2023, rates of newly reported hepatitis B have increased in the Lower Hudson Valley, Central NY/ Syracuse, and Nassau-Suffolk by 26.5%, 18.1%, and 17.2% respectively.

Notes. Regional case counts and rates exclude cases in persons incarcerated in Department of Corrections and Community Supervision (DOCCS). See table 1.5 in the Data Appendix for additional information.

Infographic 4: Hepatitis B, Newly Reported Cases by County, NYS (excl. NYC), 2023

Figure 4.1: Newly Reported Hepatitis B Cases by County, NYS (excl. NYC), 2023

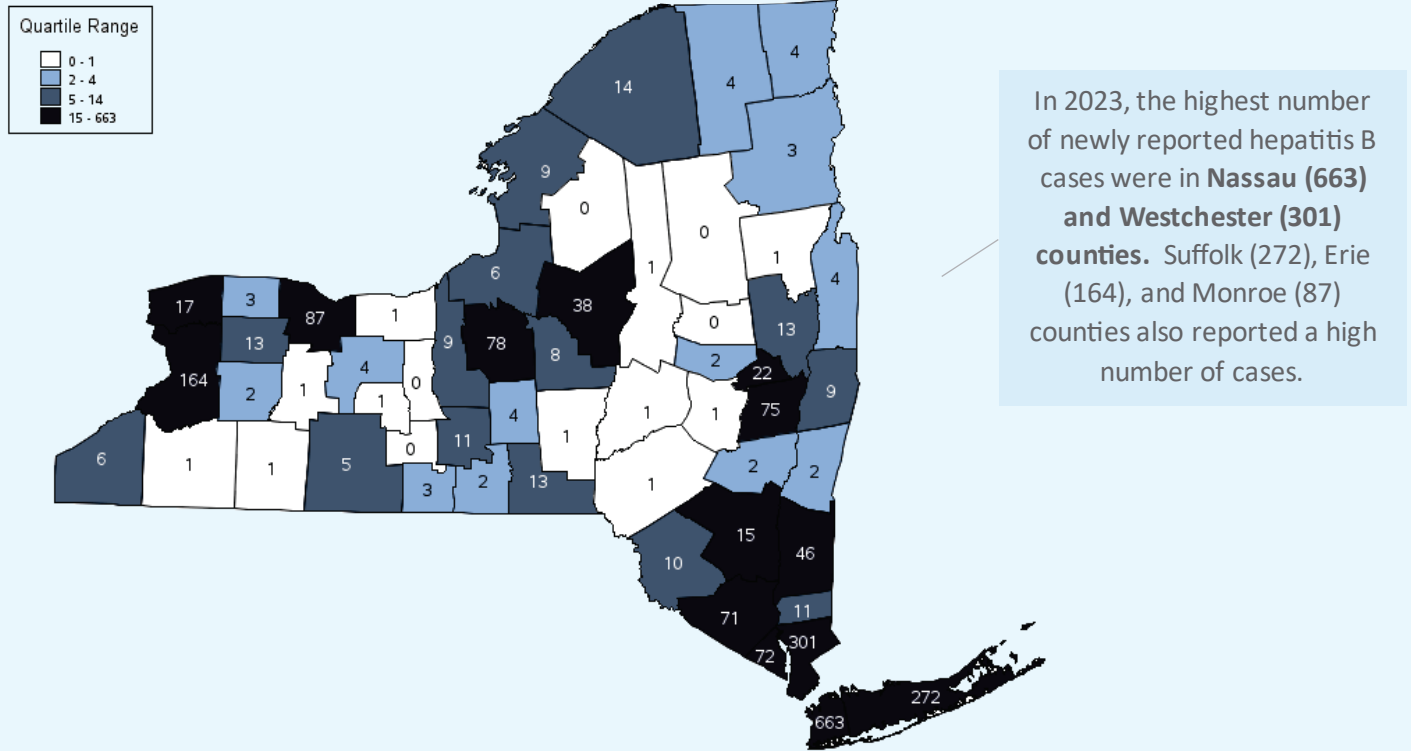
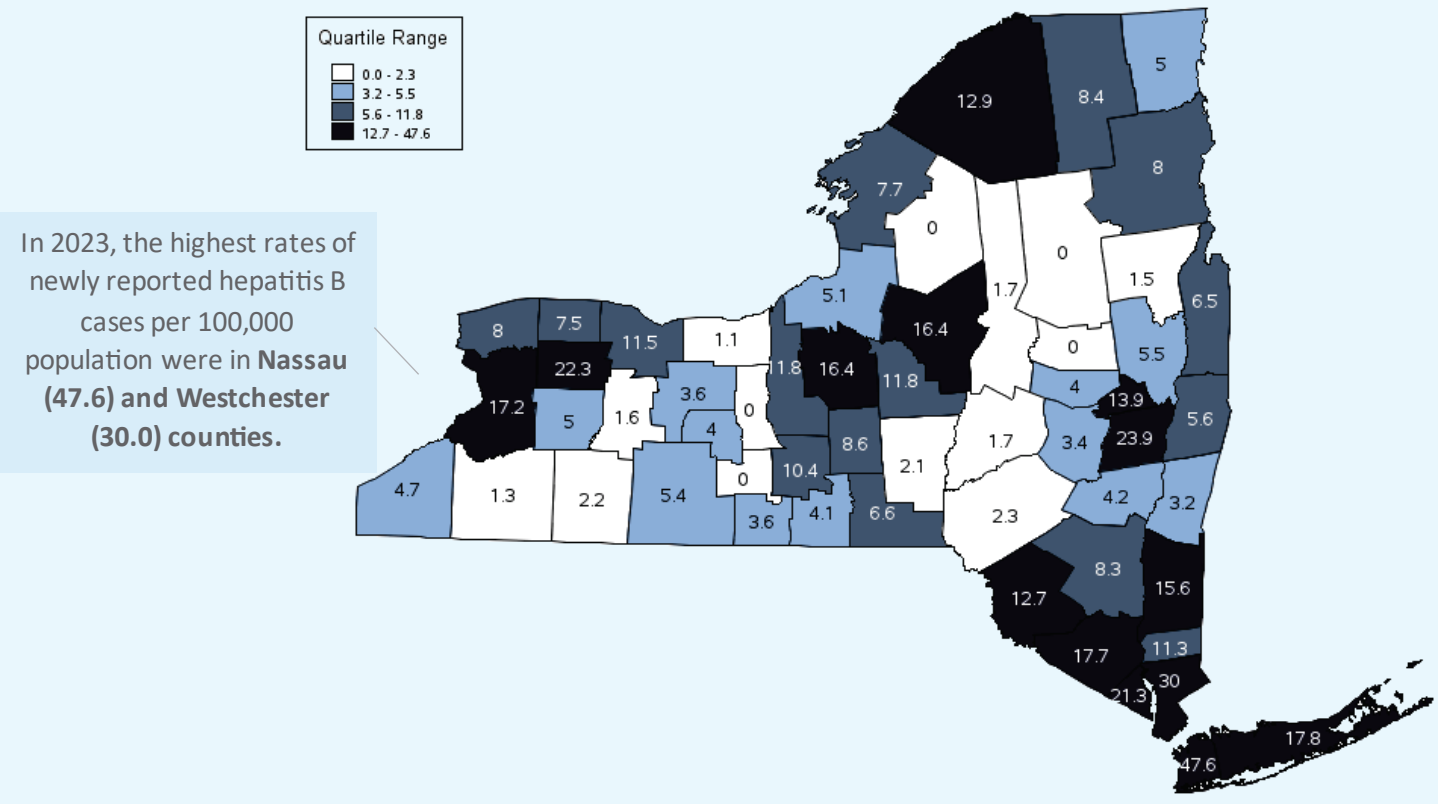


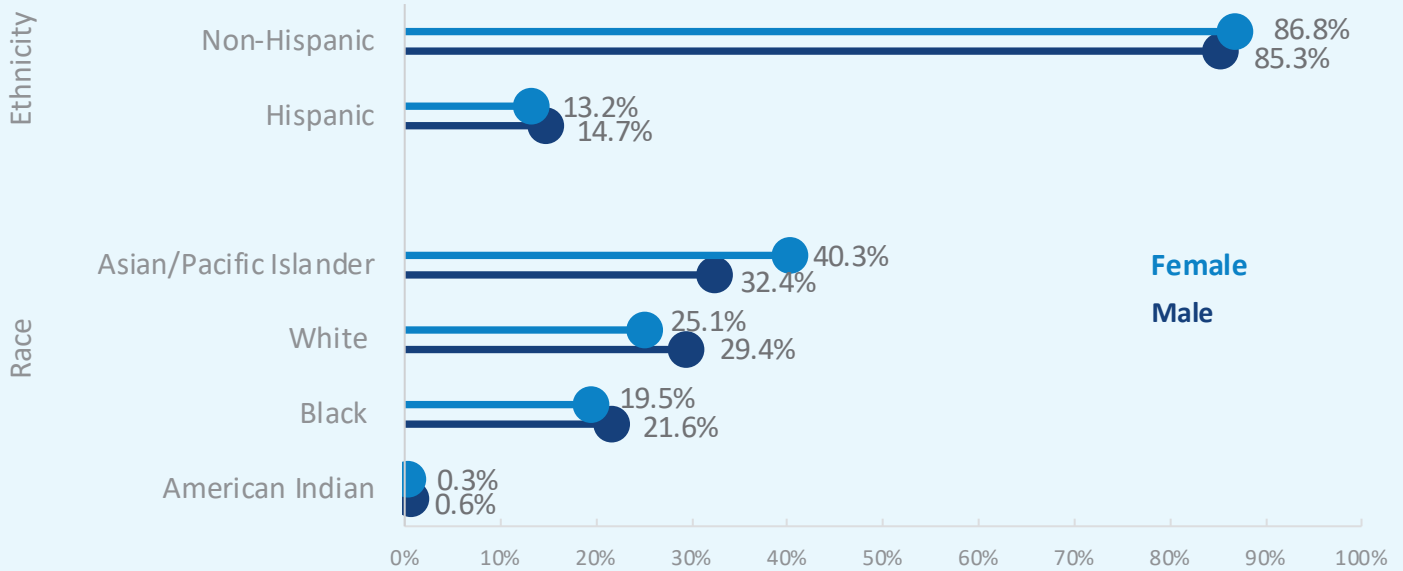
Figure 4.2: Newly Reported Hepatitis B Cases Rate per 100,000 pop., NYS (excl. NYC), 2023



Notes. Regional case counts and rates at the county level exclude cases in persons incarcerated in the Department of Corrections and Community Supervision (DOCCS). Case rates per 100,000 pop. are calculated based on 2020 US Census data. See *About data* on page 6 in this report. See Table 1.6 in the Data Appendix for additional information.

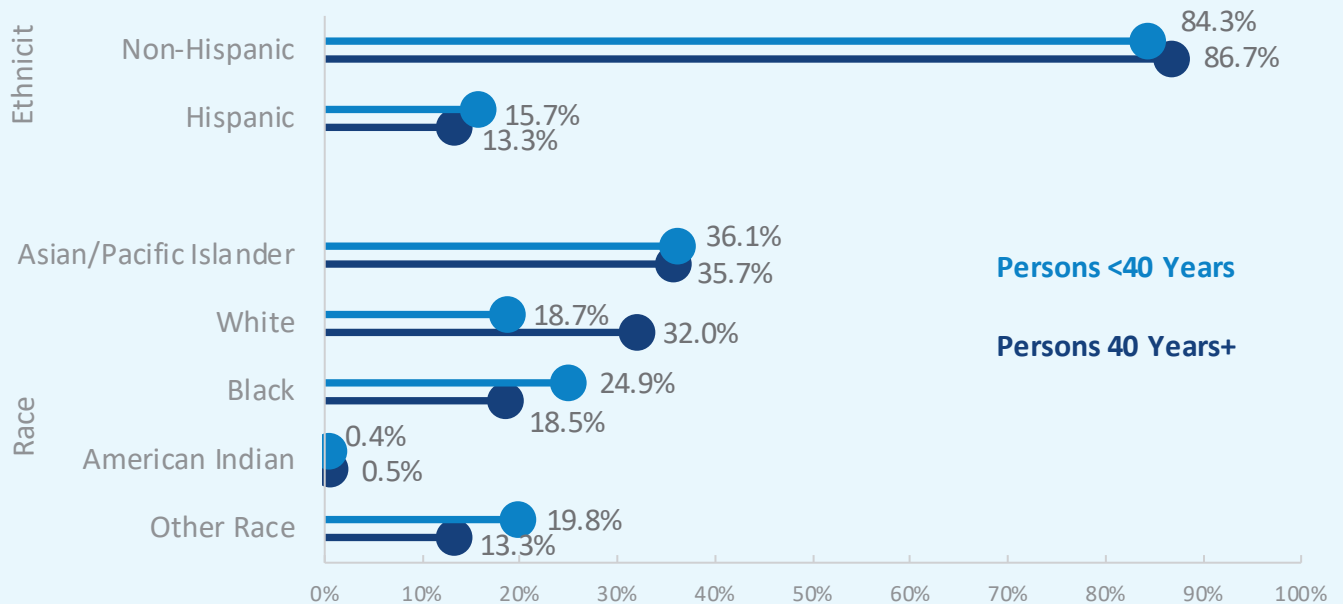
Infographic 5: Hepatitis B, Newly Reported Cases by Race, Ethnicity, Sex, and Age, NYS (excl. NYC), 2023

Figure 5.1: Newly Reported Hepatitis B Cases by Sex, Race, and Ethnicity, NYS (excl. NYC), Excluding Cases with Unknown Race and Ethnicity, 2023



Where race and ethnicity were reported, the highest percentages of newly reported cases of hepatitis B were among **Asian/Pacific Islanders and those with non-Hispanic ethnicity**, regardless of sex or age. The percentage of newly reported cases of hepatitis B that are **White are substantially higher for people aged 40+ years than for those under 40 years of age.**

Figure 5.2: Newly Reported Hepatitis B by Age, Race, and Ethnicity, NYS excl. NYC, Excluding Cases with Unknown Race and Ethnicity, 2023



Note. Race data is missing for 35.8% of all hepatitis B cases, 35.5% among females, 35.8% among males, 37.4% among persons <40 years of age, and 34.9% for persons 40 years and older. Ethnicity is missing for 51.7% of all hepatitis B cases, 52.6% among females, 51.0% among males, 52.9% among persons <40 years of age, and 51.1% among persons 40 years and older. Sex data represents sex at birth. See *Variable Definition* on page 5 for additional information. See tables 1.7, 1.8 in the Data Appendix for additional information.

Infographic 6: Hepatitis B, Newly Reported Acute Cases, Risk Factors, NYS (excl. NYC), 2023



In 2023, **42%** of newly reported acute hepatitis B cases had no known history of hepatitis B vaccination. When analyzing only cases with known risk factors, **73%** of newly reported acute cases had no known history of hepatitis B vaccination.

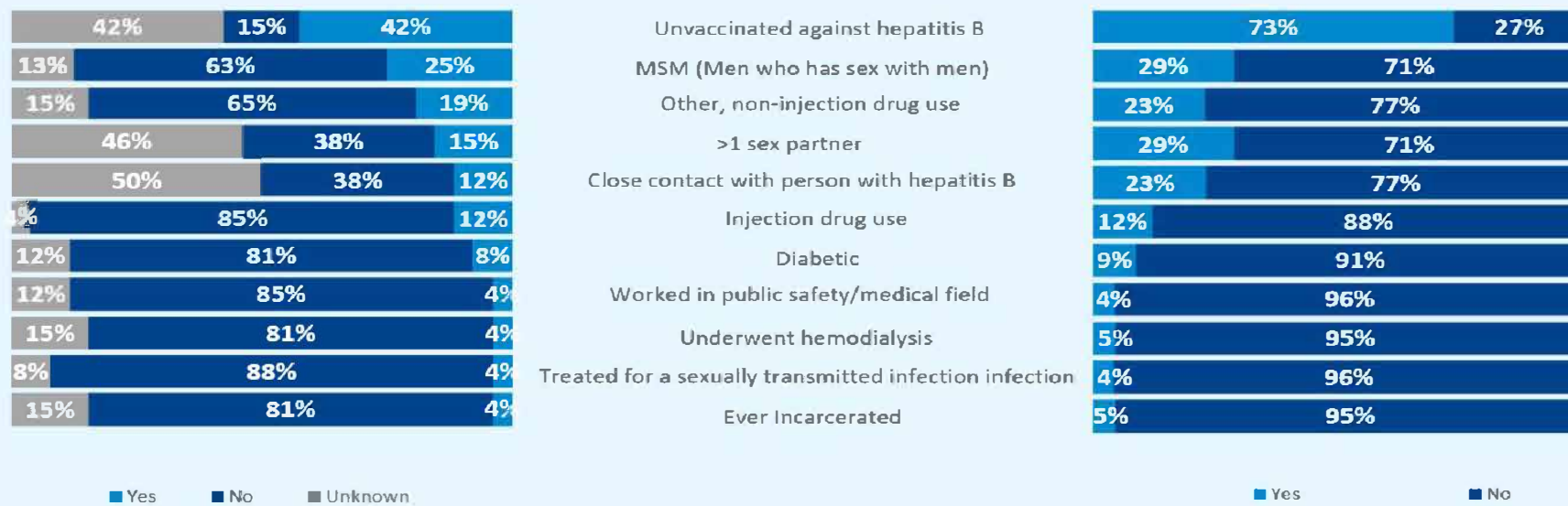


In 2023, **25%** of newly reported acute hepatitis B cases in males were among men who have sex with men (MSM). When analyzing only cases with known risk factors, **29%** of newly reported acute cases in males were among men who have sex with men.



In 2023, **19%** of newly reported acute hepatitis B cases indicated other, non-injection drug use as a risk factor. When analyzing cases with known risk factors, **23%** of newly reported acute cases indicated other, non-injection drug use.

Figure 6.1: Newly Reported Acute Hepatitis B Cases, Risk Factor Information, NYS (excl. NYC), 2023

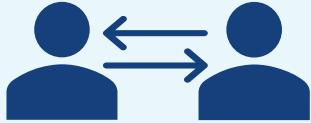


Note. Categories are not mutually exclusive. See *Variable Definition* on page 5 for additional information. For acute hepatitis B cases, risk factor information is collected for the individual's exposure window period. See Tables 1.9 in the Data Appendix for additional information.

Infographic 7: Hepatitis B, Newly Reported Chronic Cases, Risk Factors, NYS (excl. NYC), 2023



In 2023, **12%** of newly reported chronic hepatitis B cases had no known history of hepatitis B vaccination. When analyzing only cases with known risk factors, 68% of newly reported chronic cases had no known history of hepatitis B vaccination.

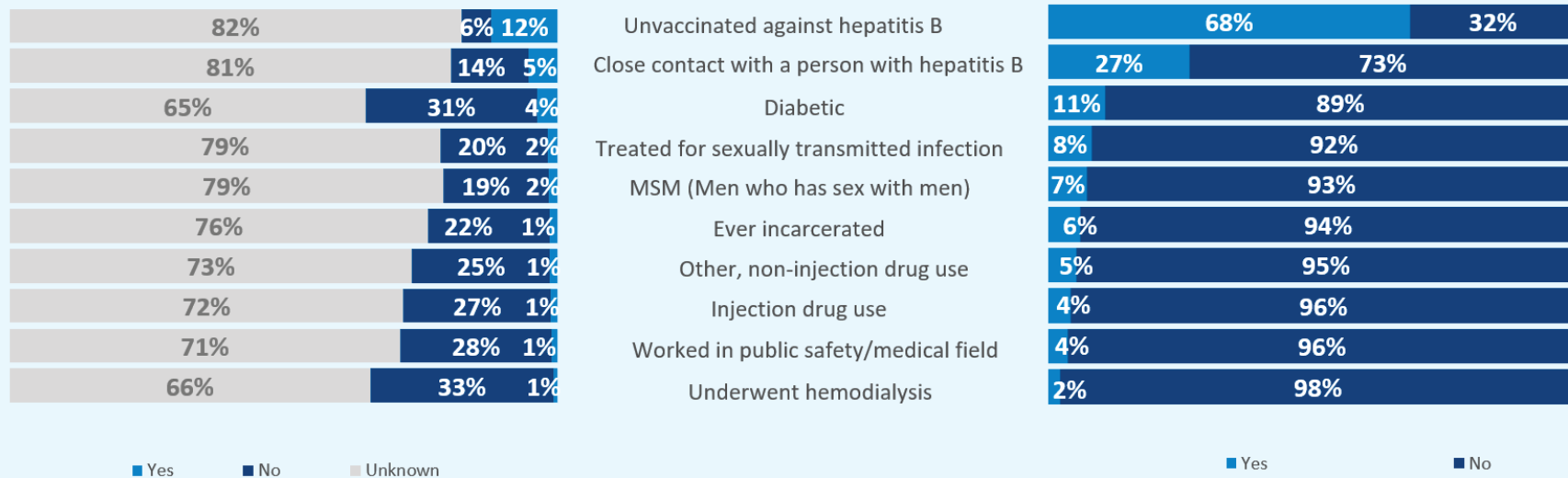


In 2023, **5%** of newly reported chronic hepatitis B cases had close contact with a person diagnosed with hepatitis B. When analyzing only cases with known risk factors, 27% of newly reported chronic cases had close contact with a person diagnosed with hepatitis B.



In 2023, **4%** of newly reported chronic hepatitis B cases had a known history of diabetes. When analyzing only cases with known risk factors, 11% of newly reported chronic cases were among cases with a known history of diabetes.

Figure 7.1: Newly Reported Chronic Hepatitis B Cases, Risk Factor Information, NYS (excl. NYC), 2023



Note. Categories are not mutually exclusive. See *Variable Definition* on page 5 for additional information. For chronic hepatitis B cases, risk factors indicate risk over an individual's lifetime. See Tables 1.10 in the Data Appendix for additional information.

PERINATAL HEPATITIS B PREVENTION PROGRAM DATA

In the 57 counties outside NYC, NYSDOH implements a Perinatal Hepatitis B Prevention Program (PHBPP) consistent with CDC guidance and NYSDOH laws and regulations.

Program Goals are:

1. Screen every person during every pregnancy for the presence of hepatitis B surface antigen (HBsAg) and record the test result prominently in the pregnant woman's and infant's hospital medical record.
2. Identify all pregnant persons who have hepatitis B (positive HBsAg, positive hepatitis B e antigen [HBeAg], and/or detectable hepatitis B virus deoxyribonucleic acid [DNA]), and pregnant persons with unknown status, and provide case management for their infant to ensure that the infant receives timely post exposure prophylaxis (hepatitis B immune globulin [HBIG] and hepatitis B vaccine), completes the hepatitis B vaccine series, and postvaccination serologic testing (PVST) consistent with CDC guidance.
3. Adopt the universal hepatitis B vaccine birth dose by all birthing hospitals, which provides a "safety net" for the prevention of perinatal and early childhood infection.

For infants born during 2022 (Fig. 8.1):

- 222 infants were enrolled in the PHBPP.
- 217 infants (98%) received hepatitis B vaccine and HBIG within one calendar day of birth.
- 4 infants received hepatitis B vaccine only; 1 infant received HBIG only.
- 184 infants (83%) received hepatitis B vaccine and HBIG within one calendar day of birth and completed the hepatitis B vaccine series by eight months of age.
- 210 infants (95%) received hepatitis B vaccine and HBIG within one calendar day of birth and completed the hepatitis B vaccine series by 12 months of age.
- 169 infants (76%) completed PVST by the end of the reporting period (December 31, 2023).

The overall 2023 birth dose rate for 82 NYS birth hospitals (not including NYC) is 84%. Rates, since 2012, can be viewed on [Health Data NY](#). The percentage of infants who were born at a hospital during 2022 and received a dose of hepatitis B vaccine within three days of birth are represented in Fig. 8.1 by region. Rates range from 89% in the Central Region to 78% in the Metropolitan Region. Twenty-one birth hospitals have a birth dose rate of 90% and above.

Infographic 8: Perinatal Hepatitis B Prevention Program Data

Figure 8.1: Perinatal Hepatitis B Prevention Program 2022 Birth Cohort

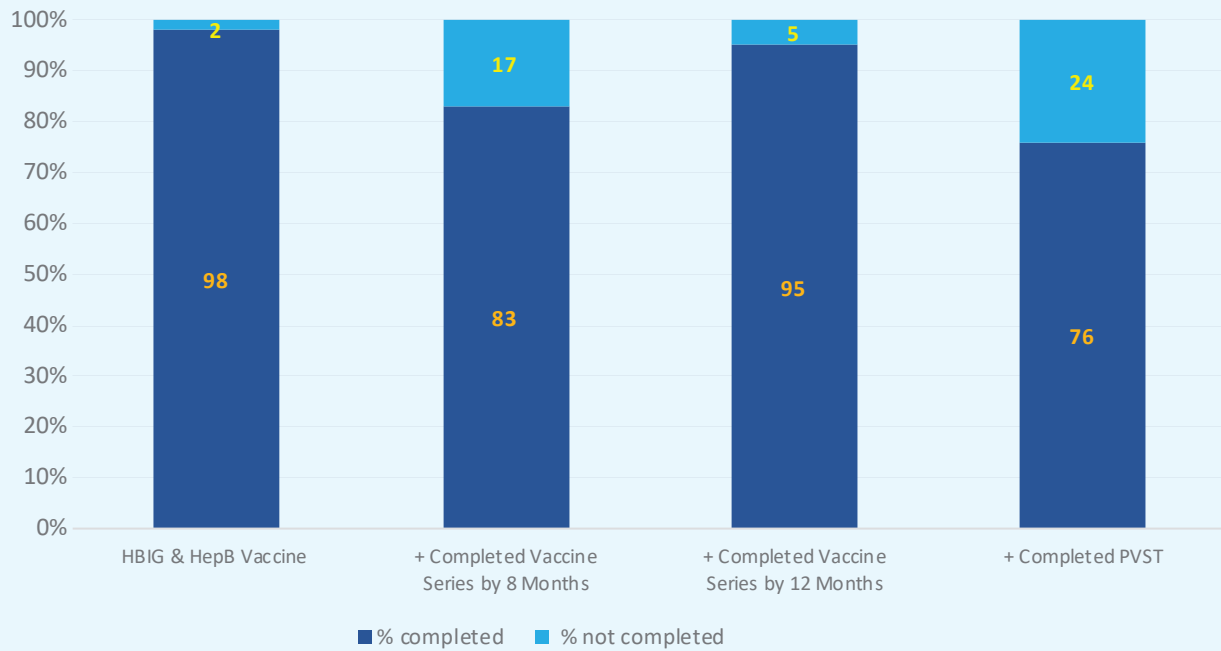
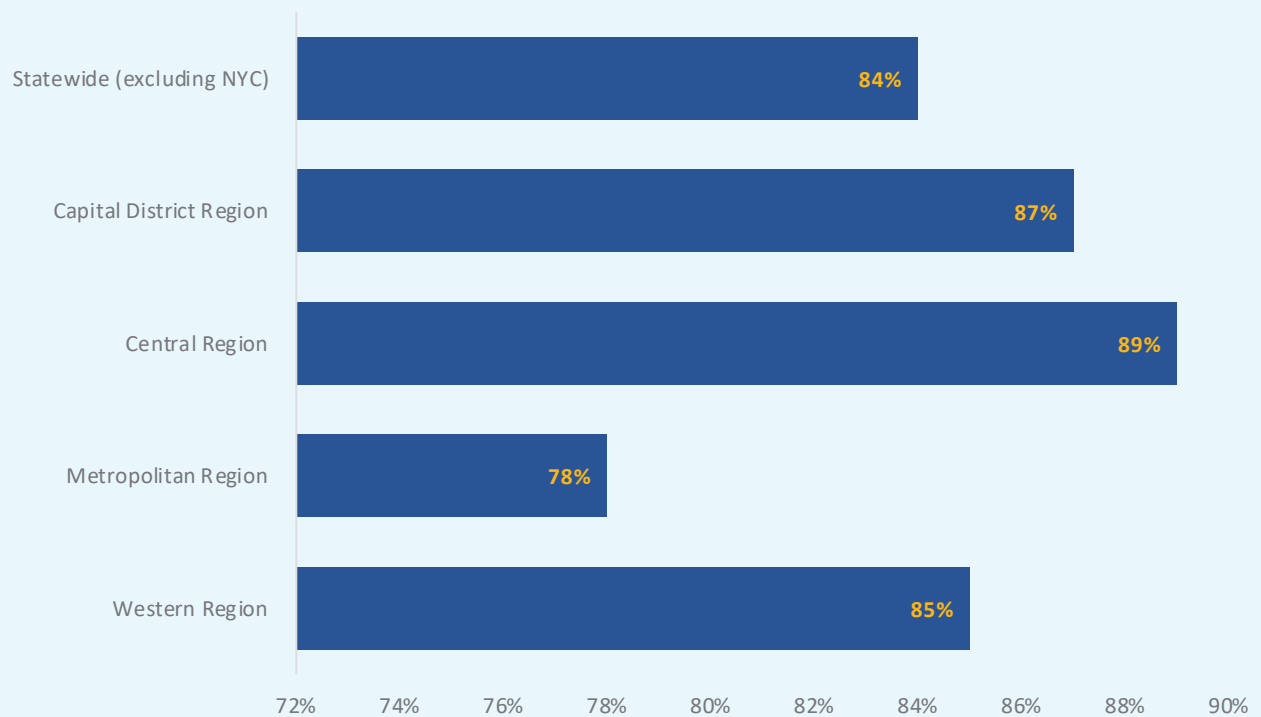


Fig 8.2: Hepatitis B Birth Dose Vaccination Rate (Percent) by Region 2023



Hepatitis C Surveillance and Program Data

Infographic 9: Hepatitis C, Newly Reported Cases, NYS (excl. NYC), 2023



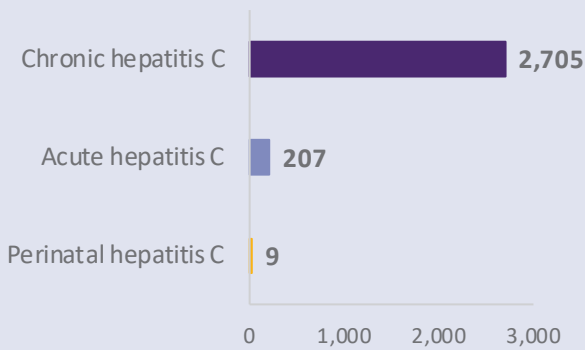
2,921

Newly reported cases of hepatitis C

25.7

cases per 100,000 pop.

Figure 9.1 Newly Reported Acute, Chronic, and Perinatal Hepatitis C Cases, NYS (excl. NYC), 2023



Chronic hepatitis C represents individuals that were likely infected years before initial report while **Acute hepatitis C** indicates more recent infection. **Perinatal hepatitis C** is classified as infants < 3 years old that were infected following birth from a pregnant person living with hepatitis C.

Confirmed hepatitis C cases have a positive antibody screening, followed by a positive RNA result, which confirms active infection. Probable hepatitis C cases indicate persons who had a positive antibody screening but active infection cannot be confirmed because RNA testing wasn't performed. **Reflexed RNA testing increases complete and timely diagnosis, which allows for care and treatment to be initiated sooner.**

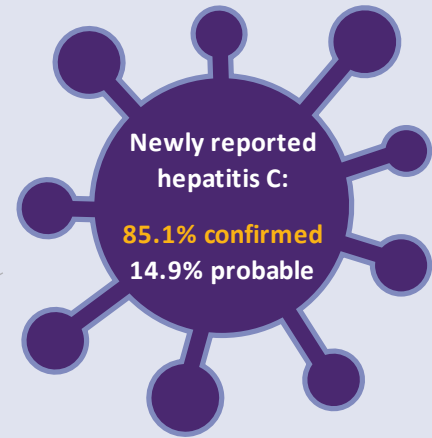
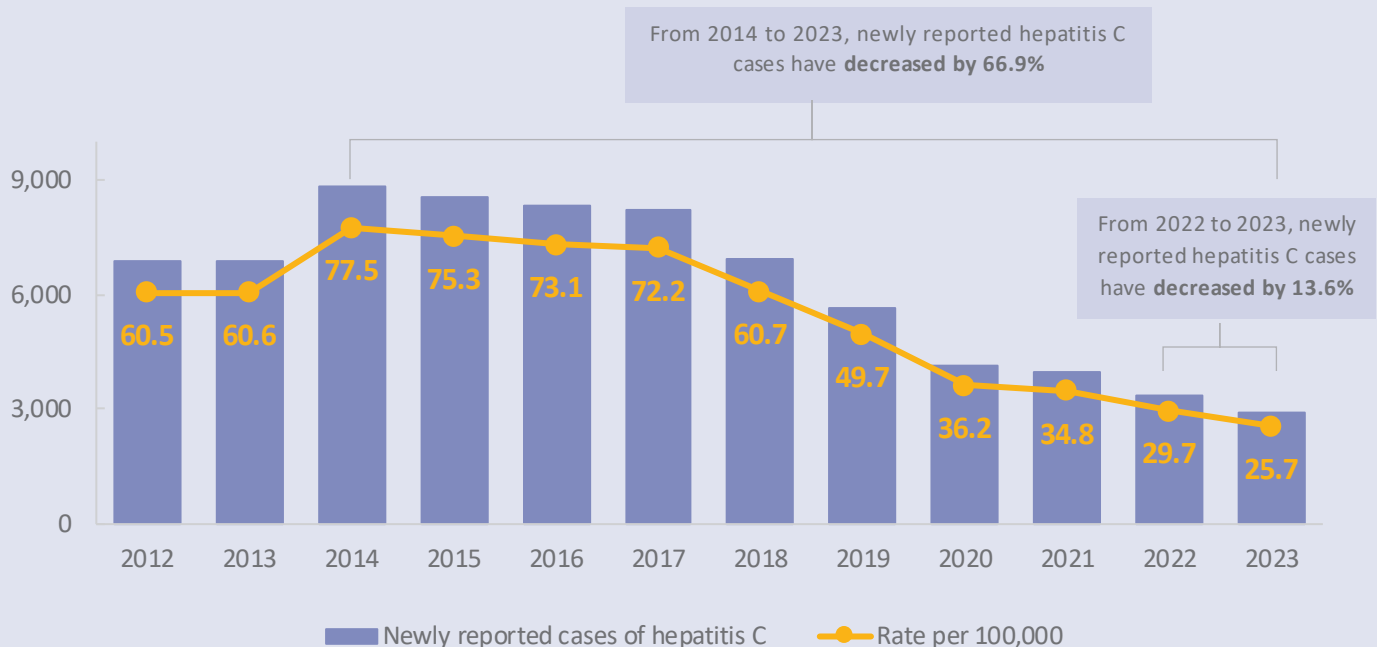


Figure 9.2 Newly Reported Hepatitis C Cases by Year, NYS (excl. NYC), 2012-2023



Notes. The NYS Hepatitis C Testing Law was implemented in 2014, acute and chronic case definitions were changed in 2016 and 2020, the hepatitis C perinatal case definition was established in 2018. Rates per 100,000 are based on 2020 US Census Data. See tables 2.1,2.3,2.4 in the Data Appendix for additional information.

Infographic 10: Hepatitis C, Newly Reported Cases, by Sex and Age, NYS (excl. NYC), 2023

In 2023:

Newly Reported Cases in Males per 100,000 pop.:

32.1

Newly Reported Cases in Females per 100,000 pop.:

19.3

Figure 10.1: Number of Newly Reported Hepatitis C Cases by Sex and Year, NYS (excl. NYC), 2012-2023

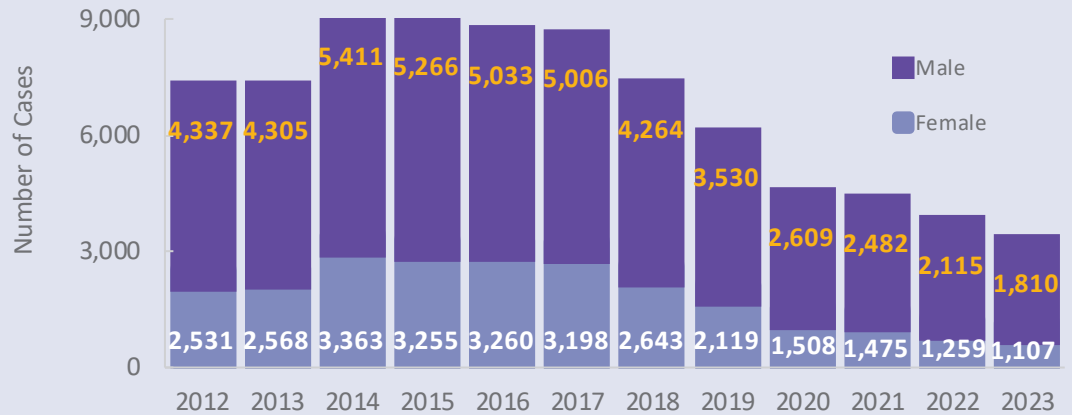
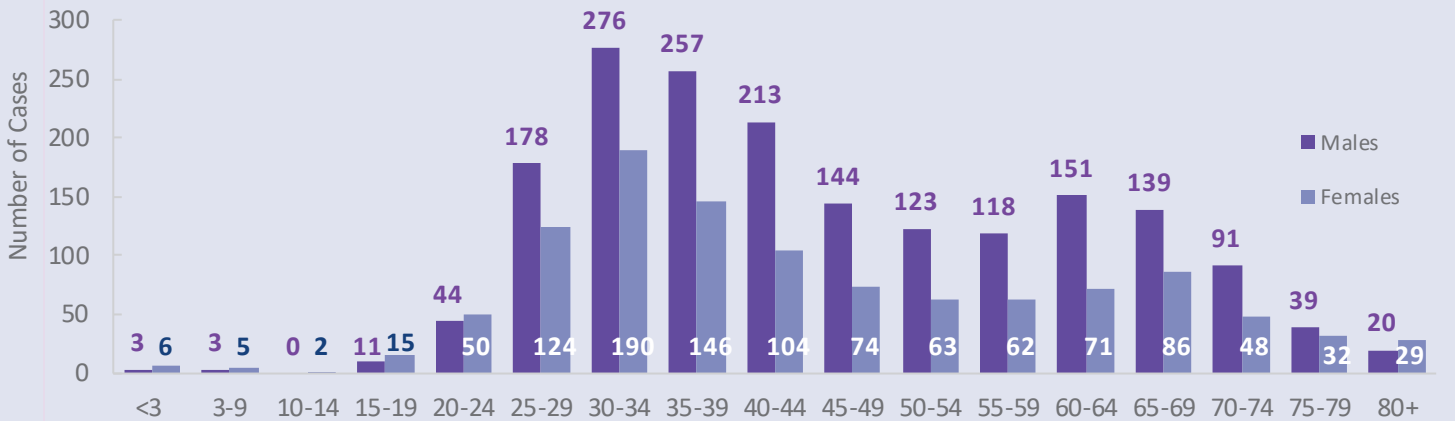
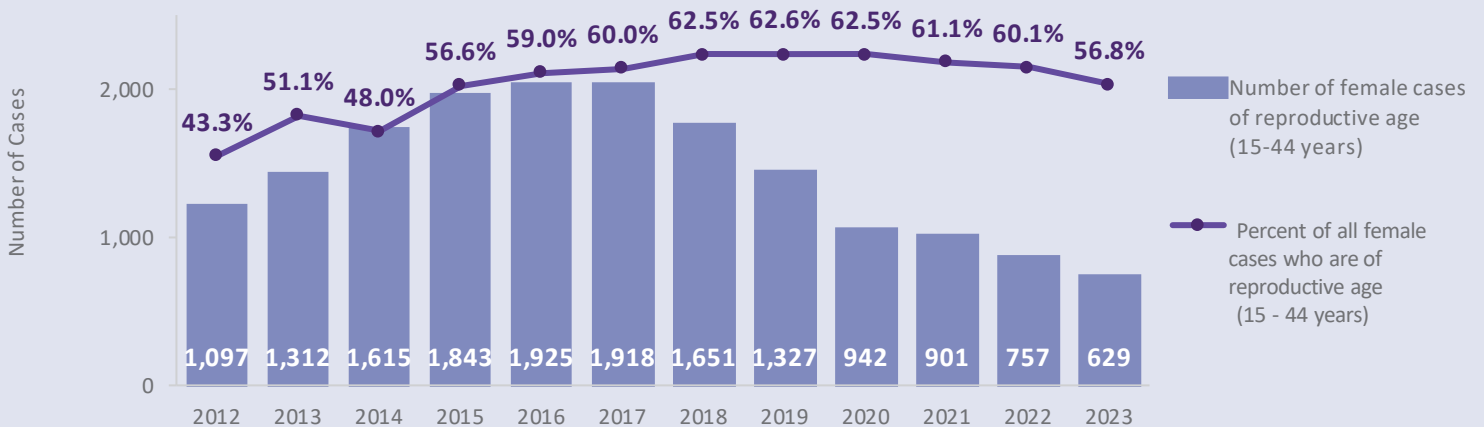


Figure 10.2: Newly Reported Hepatitis C Cases by Sex and Age Group, NYS (excl. NYC), 2023



In 2023, 62% of all newly reported hepatitis C cases were male.

Figure 10.3: Newly Reported Hepatitis C Cases Among Females of Reproductive Age (15-44 years), NYS excl. NYC, 2023

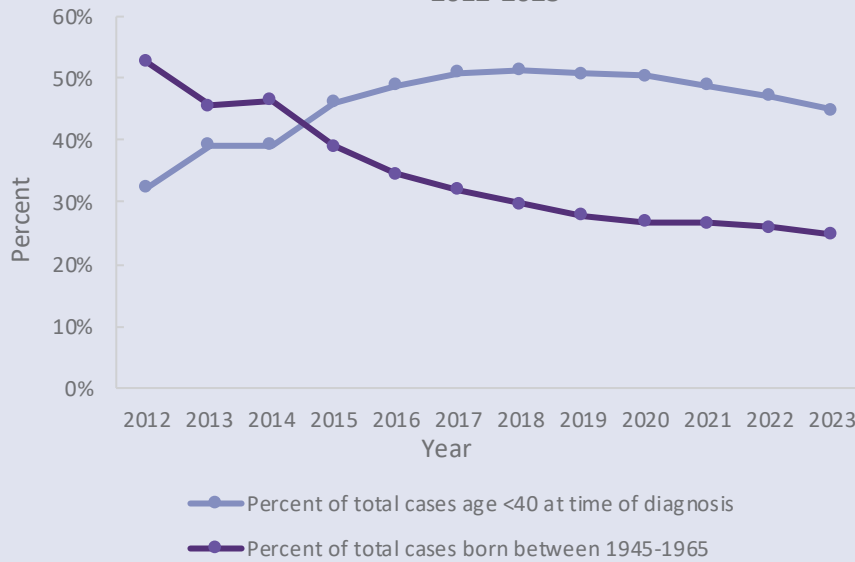


From 2022 to 2023 there was a 16.9% decrease in the number of female cases of reproductive age. In 2023, 57% of female cases were of reproductive age, the lowest percentage since 2015.

Notes. Sex data represents sex at birth. Gender identity is not presented in the infographics of this data report. See Variable Definition and About Data on pages 5 & 6. See Table 2.1,2.2,2.3 in the Data Appendix for additional information.

Infographic 11: Hepatitis C, Newly Reported Cases Among Selected Birth Cohorts, NYS (excl. NYC), 2012-2023

Figure 11.1: Percent of Newly Reported Hepatitis C Cases Less than 40 Years of Age and Newly Reported Cases Born Between 1945-1965, 2012-2023



**Baby Boomers
(Born 1945-1965)**

53% → 25%
in 2012 in 2023

of all newly reported hepatitis C cases

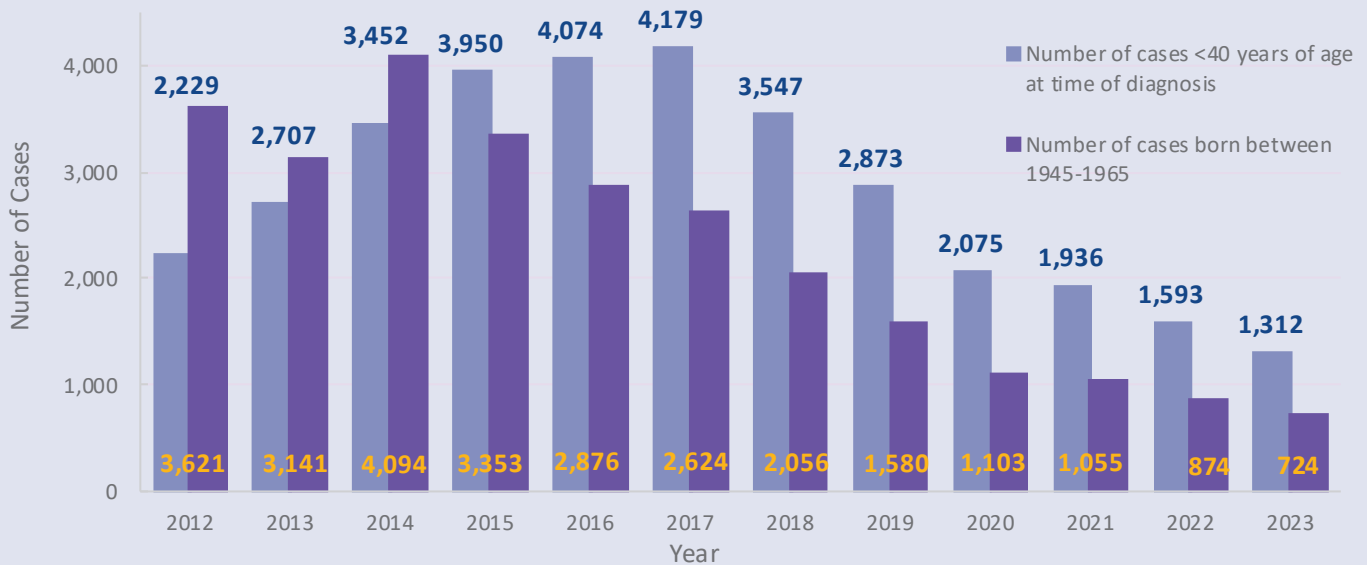
People Aged <40 years

32% → 45%
in 2012 in 2023

of all newly reported hepatitis C cases

In 2012, 52.6% of all newly diagnosed cases of hepatitis C were diagnosed in Baby Boomers (people born between 1945-1965) while those less than 40 years of age at the time of their diagnosis accounted for 32% of all cases. In 2023, 44.9% of all newly diagnosed cases of hepatitis C were in those under 40 years of age while only 24.8% were in the Baby Boomer population.

Figure 11.2: Number of Newly Reported Hepatitis C Cases Less than 40 Years of Age and Born Between 1945-1965, 2012-2023

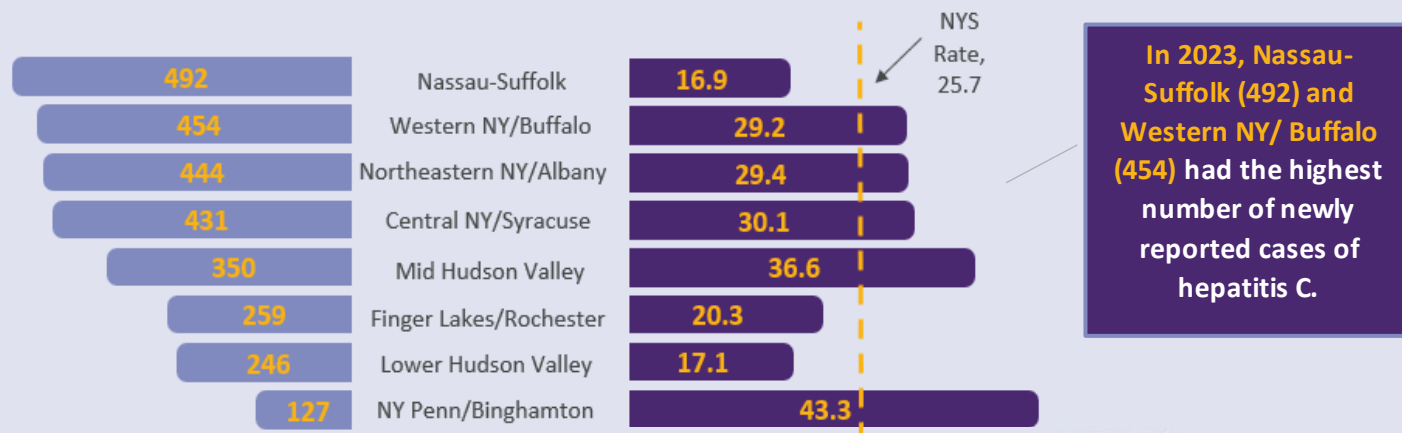


While the number of newly reported cases of hepatitis C in the Baby Boomer population peaked in 2014, newly reported cases among individuals <40 years of age peaked in 2017.

Notes. See Table 2.5 in the Data Appendix for additional information.

Infographic 12: Hepatitis C, Newly Reported Cases and Rates, by Region and Year, NYS (excl. NYC), 2023

Figure 12.1: Newly Reported Hepatitis C Cases and Rates per 100,000 pop. by NYS Region (excl. NYC), 2023



In 2023, Nassau-Suffolk (492) and Western NY/ Buffalo (454) had the highest number of newly reported cases of hepatitis C.

Figure 12.2: Newly Reported Hepatitis C Cases, Rate Per 100,000 pop., by Region, NYS (excl. NYC), 2023

In 2023, NY Penn/ Binghamton (43.3) and Mid-Hudson Valley (36.6) had the highest case rates per 100,000 population.

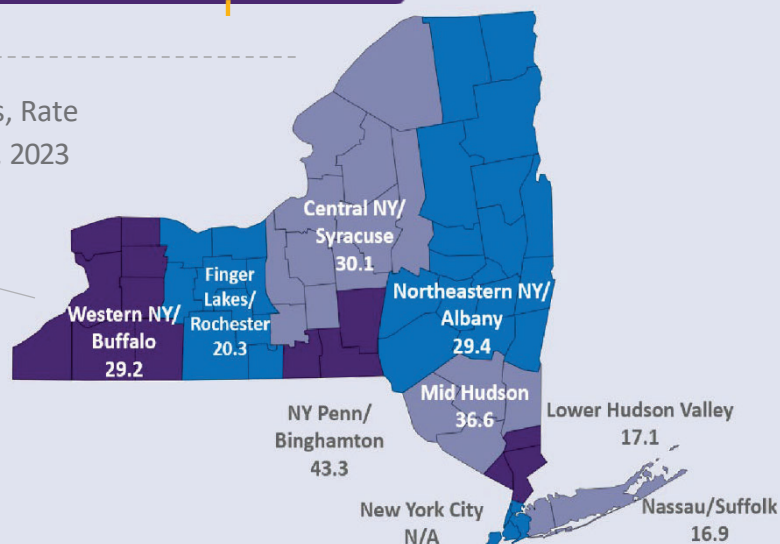
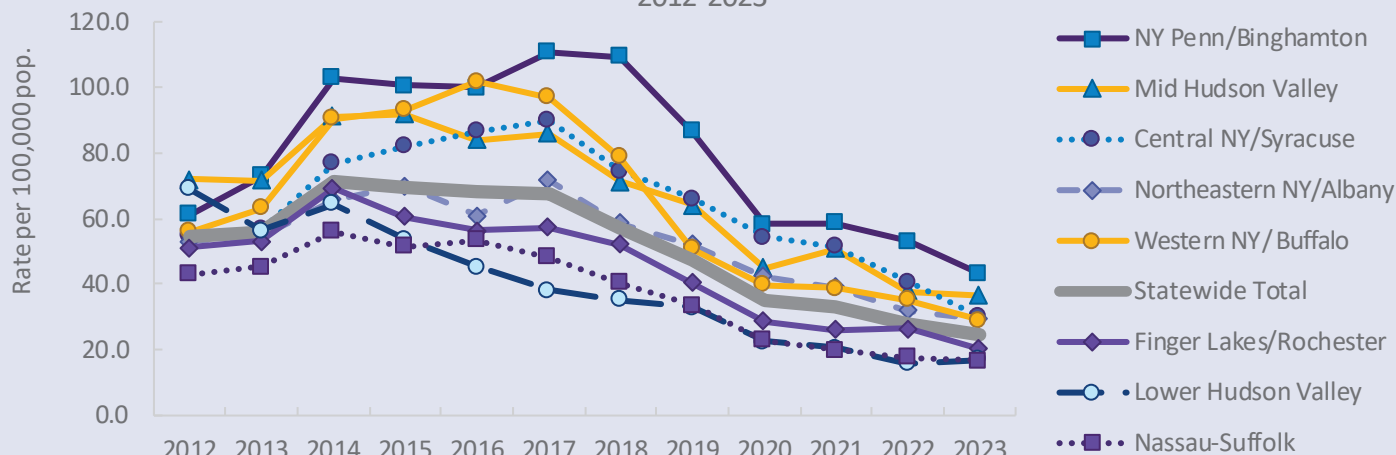


Figure 12.3: Newly Reported Hepatitis C Cases, Rate per 100,000 pop. by NYS Region (excl. NYC), 2012-2023



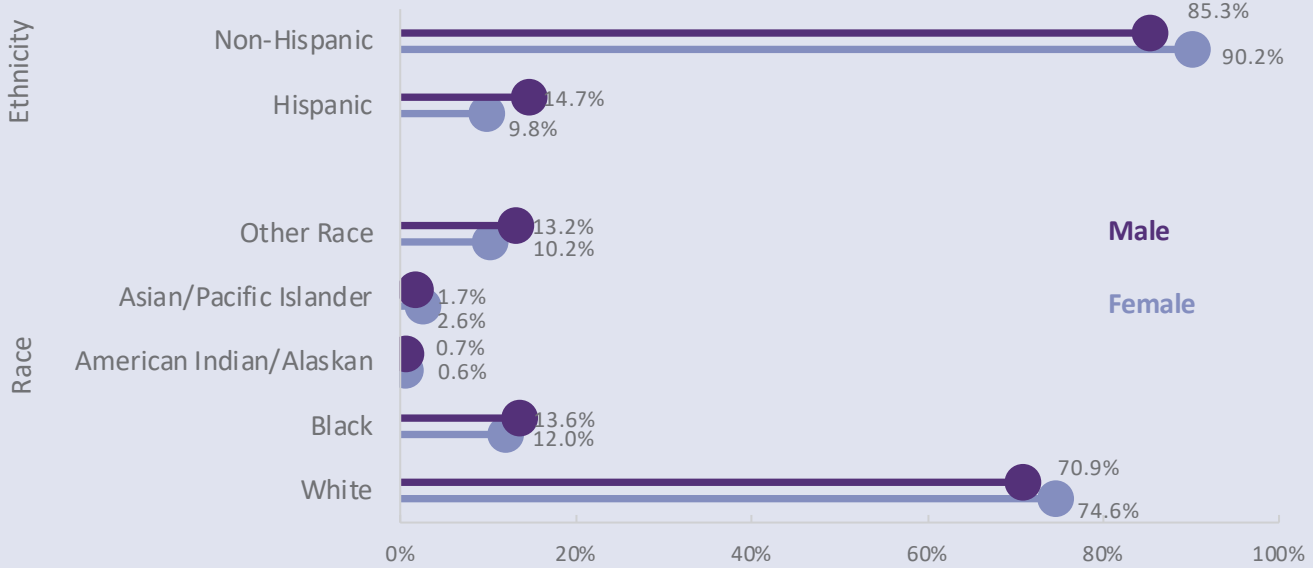
Since peaking in 2014, rates across all regions of the state have decreased. NY Penn/ Binghamton region has had the highest case rate per 100,000 pop. since 2017.

Notes. Regional case counts and rates exclude cases in persons incarcerated in the Department of Corrections and Community Supervision (DOCCS). See table 2.6 in the Data Appendix

Infographic 14: Hepatitis C, Newly Reported Cases by Race, Ethnicity, Sex, and Age, NYS (excl. NYC), 2023

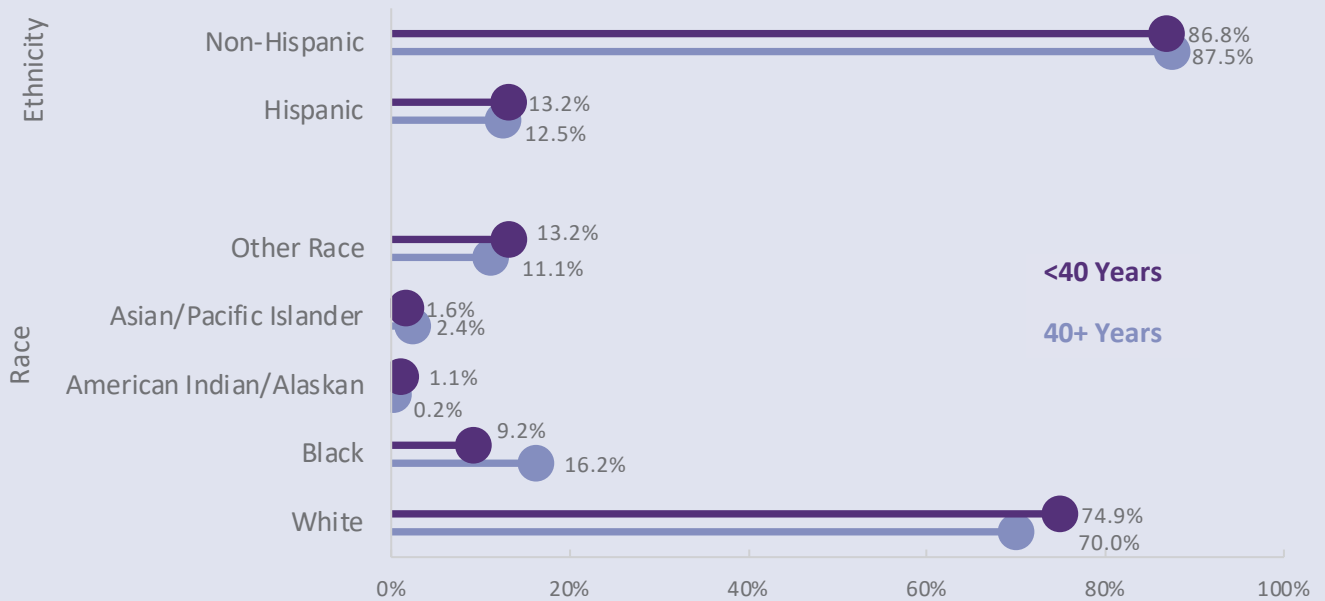


Figure 14.1: Hepatitis C, Newly Reported Cases by Sex, Race, and Ethnicity, Excluding Cases with Unknown Race and Ethnicity, NYS excl. NYC, 2023



Where race and ethnicity were reported, the highest percentage of newly reported cases of hepatitis C were among White persons and those of non-Hispanic ethnicity for both males and females and persons aged <40 and 40+ years. **A larger proportion of males with hepatitis C occurred in communities of color than seen in females.** In addition, a larger proportion of individuals with hepatitis C aged 40 years or older occurred in communities of color than those aged < 40 years.

Figure 14.2: Hepatitis C, Newly Reported Cases by Age, Race, and Ethnicity, Excluding Cases with Unknown Race and Ethnicity, NYS excl. NYC, 2023



Note. Race data is missing for 23.5% of all hepatitis C cases, 23.2% among females, 23.6% among males, 21.3% for persons <40 years, and 25.2% for persons 40+ years. Ethnicity is missing for 34.6% of all hepatitis C cases, 34.0% among females, 34.9% among males, 31.6% for persons <40 years, and 37.0% for persons 40+ years. Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definitions on page 5 for additional information. See tables 2.8,2.9 in the Data Appendix for additional information.

Infographic 15: Hepatitis C, Newly Reported Acute Cases, Risk Factors, NYS (excl. NYC), 2023



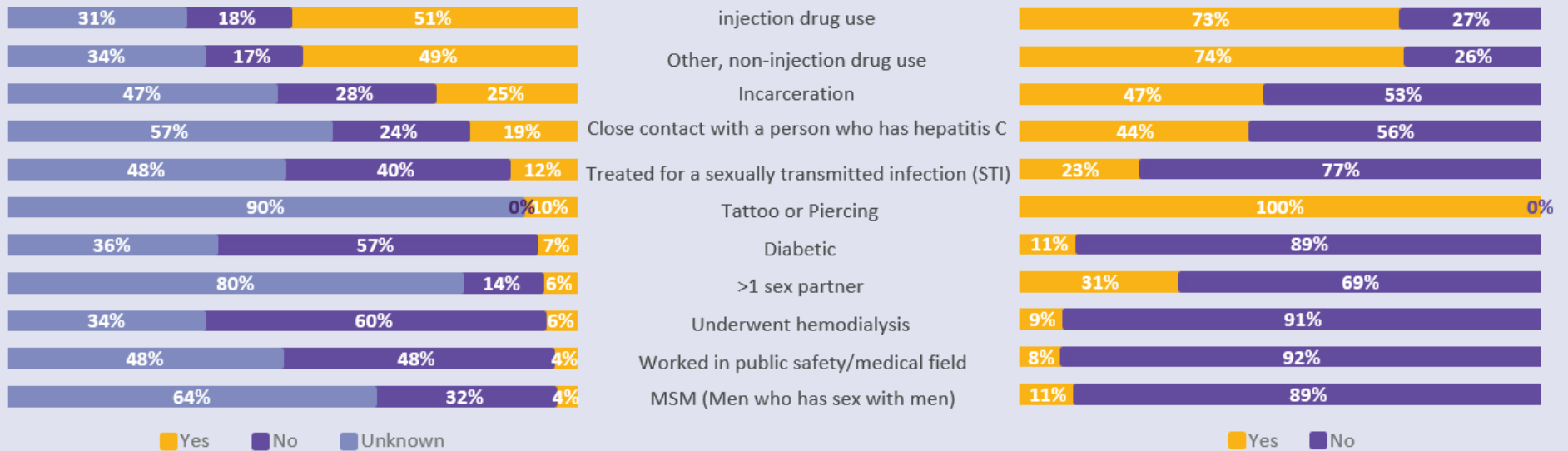
In 2023, **51%** of newly reported cases of acute hepatitis C indicated injection drug use as a risk factor. When analyzing cases with known risk factors, 73% of newly reported acute cases indicated injection drug use.

Additionally, **49%** of newly reported cases of acute hepatitis C indicated other, non-injection drug use as a risk factor. When analyzing cases with known risk factors, 74% of newly reported acute cases indicated other, non-injection drug use.



In 2023, **25%** of newly reported cases of acute hepatitis C indicated having been incarcerated. When analyzing cases with known risk factors, 47% of newly reported acute cases indicated having been incarcerated.

Figure 15.1: Newly Reported Acute Hepatitis C Cases, Risk Factor Information, NYS (excl. NYC), 2023



Note. Categories are not mutually exclusive. See *Variable Definitions* on page 5 for additional information. For acute hepatitis C cases, risk factor information is collected for exposure window period. See Table 2.10 in the Data Appendix for additional information.

Infographic 16: Hepatitis C, Newly Reported Chronic Cases, Risk Factors, NYS (excl. NYC), 2023



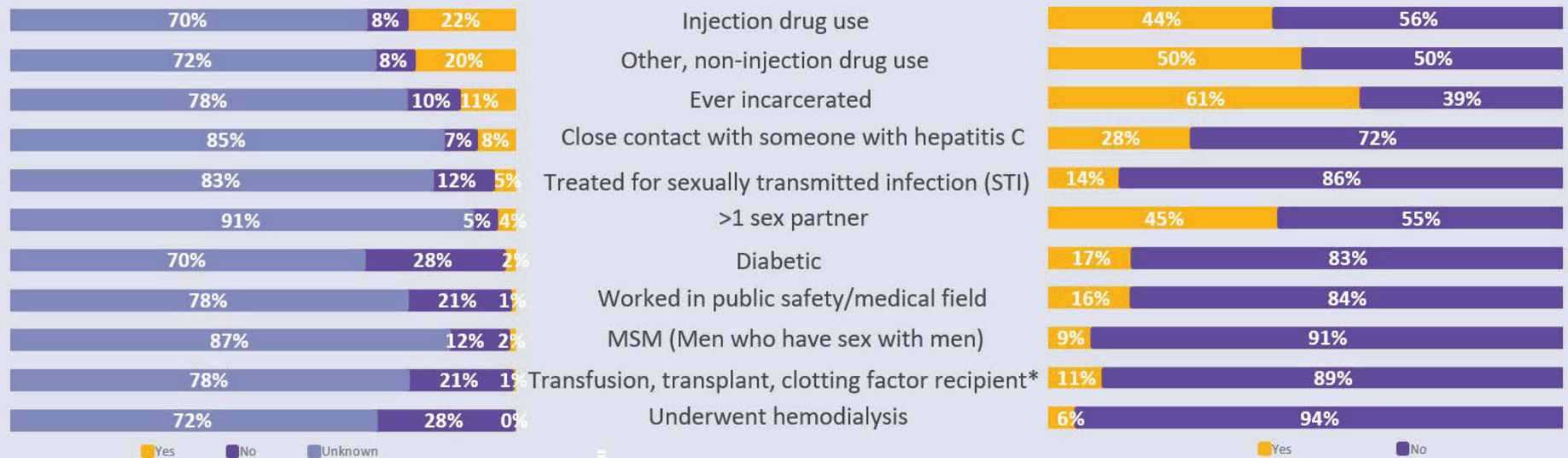
In 2023, **22% of newly reported cases of chronic hepatitis C indicated injection drug use as a risk factor.** When analyzing cases with known risk factors, 73% of newly reported chronic cases indicated injection drug use.

Additionally, **20% of newly reported cases of chronic hepatitis C indicated other, non-injection drug use as a risk factor.** When analyzing cases with known risk factors, 73% of newly reported chronic cases indicated other, non-injection drug use.



In 2023, **11% of newly reported cases of chronic hepatitis C indicated having been incarcerated.** When analyzing cases with known risk factors, 52% of newly reported chronic cases indicated having been incarcerated.

Figure 16.1: Newly Reported Chronic Hepatitis C Cases, Risk Factor Information, NYS (excl. NYC), 2023

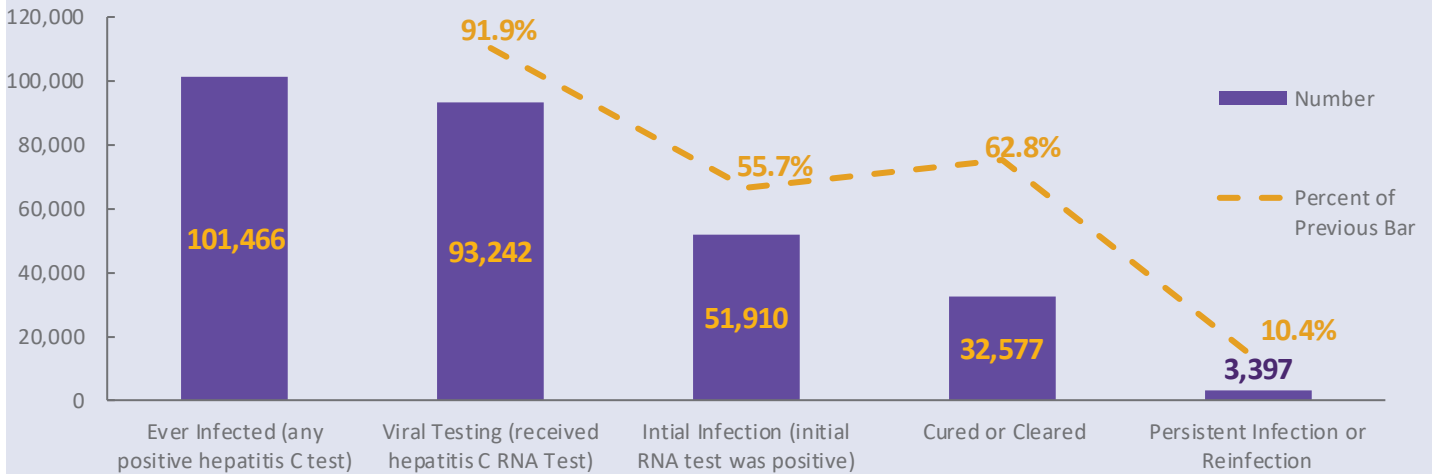


Note. Categories are not mutually exclusive. See *Variable Definitions* on page 5 for additional information. For chronic hepatitis C cases, risk factors indicate risk over the individual's lifetime. See Table 2.11 in the Data Appendix for additional information.

Infographic 17: Hepatitis C Virus Clearance Cascade, NYS (excl. NYC), 2022

In 2021, the Centers for Disease Control and Prevention (CDC) developed a method to use laboratory results to track the numbers and percentages of people who are tested for and cured of hepatitis C. The results of this HCV Clearance Cascade are shown below.

Figure 17.1: Laboratory-Based Hepatitis C Virus Clearance Cascade, NYS (excl. NYC), 2016 - 2022



Of 101,466 individuals in NYS (excluding NYC) with any positive hepatitis C test, indicating either past or current infection with hepatitis C from 2016 to 2021, 91.9% received viral testing in the follow-up period (from 2016 through 2022). 55.7% of those receiving viral testing had a positive RNA test (indicating initial infection). Of those initially infected, 62.8% individuals were cured or cleared their infection and among those, 10.4% had a persistent infection or experienced reinfection.

Figure 17.2: Laboratory-based Hepatitis C Virus Clearance Cascade Percentages, NYS (excl. NYC), by Age, Sex, Race, and Ethnicity, 2016-2022



Notes. Race: *Native American/Alaskan Native, **Native Hawaiian/Pacific Islander. Ethnicity: *Hispanic, **non-Hispanic. See About Data in this report on page 6. See Tables 3.1, 3.2 in the Data Appendix for additional information.

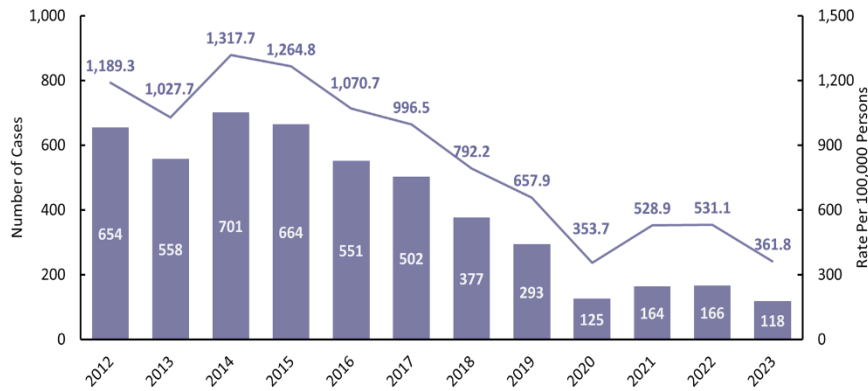
In 2023: There were **118** newly reported cases of hepatitis C in the New York State Department of Corrections and Community Supervision (NYS DOCCS).

361.8 per 100,000 individuals, was the rate of newly reported hepatitis C cases in the NYS DOCCS.



When risk factor information was available, non-injection and injection drug use were the most common risk factors for newly reported cases.

Figure 18.1: Newly Reported Hepatitis C Cases and Rates by Year, NYS DOCCS, 2012-2023



Between 2012-2023, 4,873 cases of hepatitis C were first diagnosed in the NYS DOCCS and reported to the NYSDOH. The rate and the total number of newly reported cases peaked in 2014 and has decreased in the following years. In 2023, the number of newly reported cases reached a decade low of 118, representing a 83% reduction in comparison to 2014.

Figure 18.2: Newly Reported Acute and Chronic Hepatitis C Cases by Year, NYS DOCCS, 2012-2022

Hepatitis C RNA testing, which confirms current infections, was conducted on 97% of newly reported hepatitis C cases in 2023. There was a 32% decrease in chronic cases of hepatitis C that were newly reported in 2023 compared to 2022, while newly reported acute cases fell by 10%.

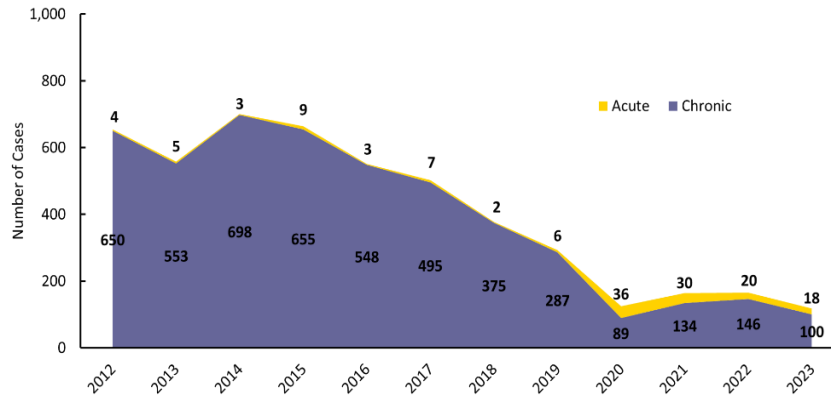


Figure 18.3: Newly Reported Hepatitis C Cases by Sex and Age, NYS DOCCS, 2023

Of newly reported hepatitis C cases, 83% were in males and 72% were in persons less than 40 years old.

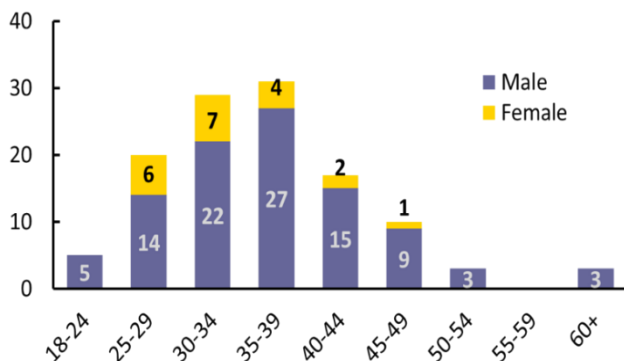
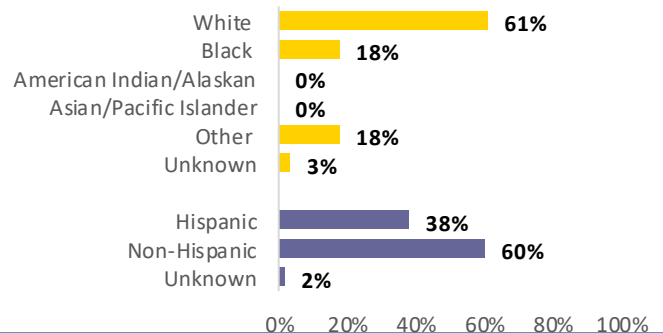


Figure 18.4: Newly Reported Cases of Hepatitis C by Race/Ethnicity, NYS DOCCS, 2023

Where race and ethnicity were reported, the percentage of newly reported cases was highest among White and Non-Hispanic individuals.



Notes. Counts represent cases identified in DOCCS' facilities in NYS (outside of NYC) that were not previously identified by NYSDOH and may differ from DOCCS' internal counts, which are based on a different definition. Sex data represents sex at birth.

Infographic 19: Mortality due to Hepatitis B, Hepatitis C, or Liver Cancer, NYS, 1999-2022

Deaths from Hepatitis B, Hepatitis C, and Liver Cancer – National Center for Health Statistics

Figure 24.1: Age-Adjusted Death Rates Due to Hepatitis B & C and Liver Cancer, New York State: 1999-2022

Age-adjusted liver cancer death rates in New York State (NYS) peaked at 6.9/100,000 in 2012. From 2012 to 2022 the rate decreased by 14.5%.

Age-adjusted hepatitis C death rates peaked at 4.7/100,000 in 2012. From 2012 to 2022, the rate decreased by 63.8%.

Age-adjusted hepatitis B death rates have remained lower than 1/100,000 since 1999.

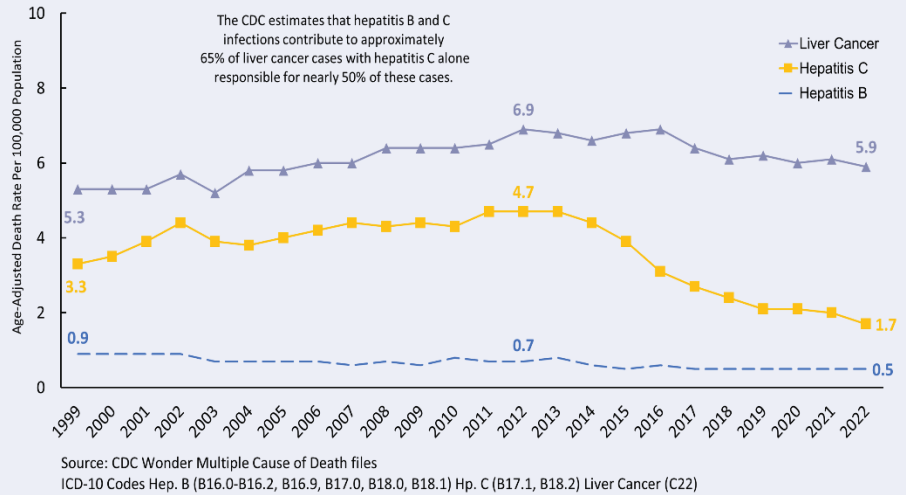
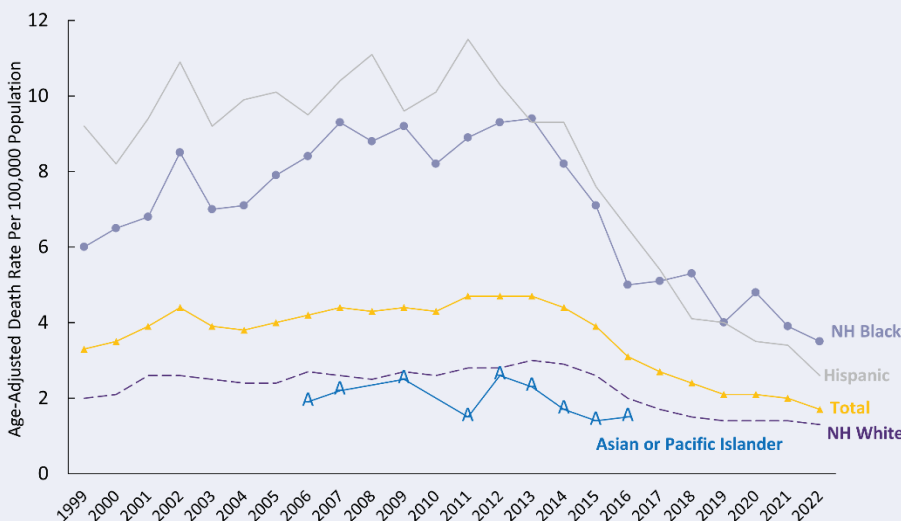


Figure 24.2: Age-Adjusted Hepatitis C Death Rates by Race/Ethnicity, New York State: 1999-2022

From 2012 to 2022, among racial/ethnic groups with 20 or more hepatitis C deaths per year, age-adjusted death rates declined 62.4% in the non-Hispanic Black population, 74.8% in the Hispanic population, and 53.6% in the White population. Despite these declines, age-adjusted death rates continue to be highest in the non-Hispanic Black and Hispanic populations.

When available, yearly age-adjusted death rates in the Asian/Pacific Islander community were consistently lower than rates in the White population.



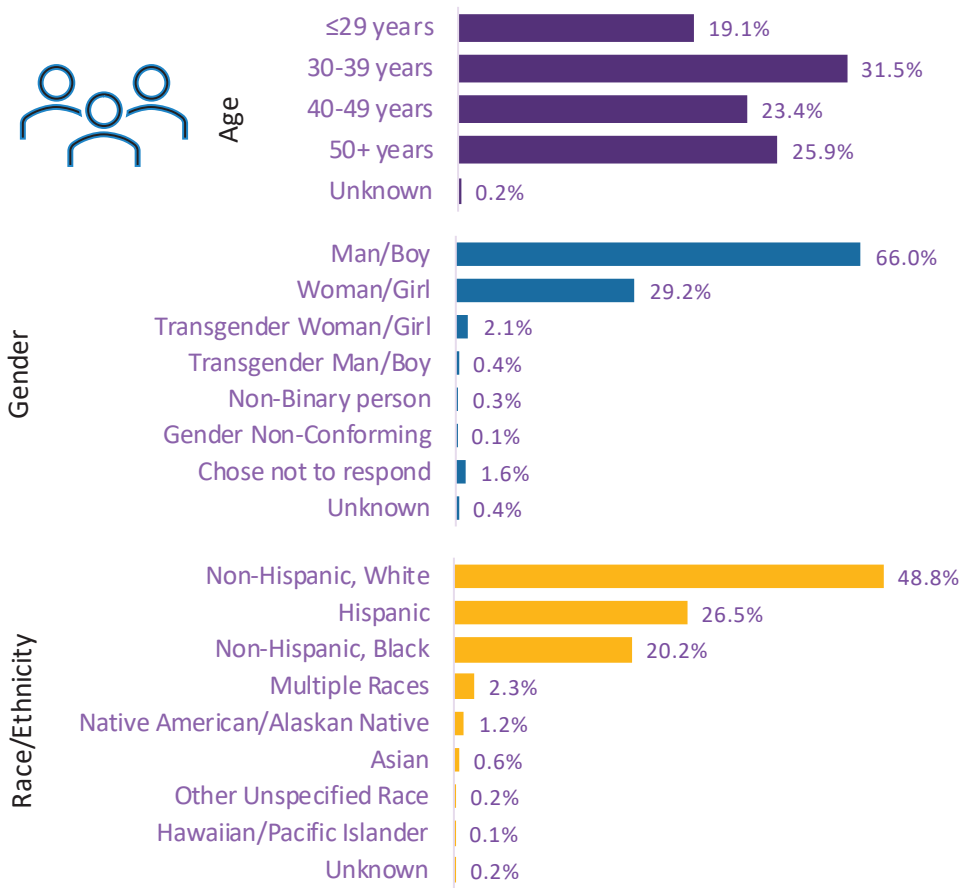
- Yearly age-adjusted death rates in the Native American population were unavailable for all years. However, from 2012-2020, the average age-adjusted death rate in this group was 2.8/100,000.
- The age-adjusted death rate in the Native American population was lower than the rates in the Hispanic and non-Hispanic Black population (6.5/100,000 and 6.4/100,000 respectively), but higher than the rates in the non-Hispanic White and Asian/Pacific Islander population (2.2/100,000 and 1.3/100,000 respectively).

Data source: National Center for Health Statistics, multiple causes of death file, available at wonder.cdc.gov. Centers for Disease Control and Prevention, Viral Hepatitis and Liver Cancer Fact Sheet, March 2016 online

New York State Hepatitis C Testing Program

The Hepatitis C Testing Program provides free hepatitis C fingerstick testing supplies to agencies serving underinsured individuals at the highest risk of hepatitis C infection. Enrolled agencies also had access to free supplies for onsite hepatitis C ribonucleic acid (RNA) specimen collection with dried blood spot to confirm or rule out current infection. Not all enrolled agencies opted for dry blood spot collection. In 2022, there were 25 enrolled agencies in the Hepatitis C Testing Program.

Figure 20.1: Hepatitis C Testing Program, Client Demographics, 2022



In 2022,

1,987
Clients screened for hepatitis C antibody

645
Clients screened antibody positive

32.5%
Reactivity Rate

Of the clients screened:

55.5%
have a reported history of injection drug use

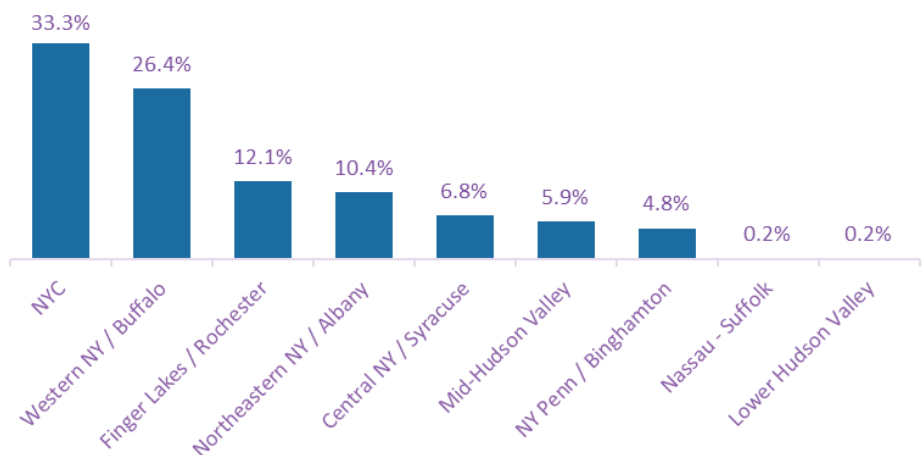
17.1%
are homeless, living on the street or in a shelter

74.1%
DO NOT have permanent housing

39.5%
are insured by Medicaid

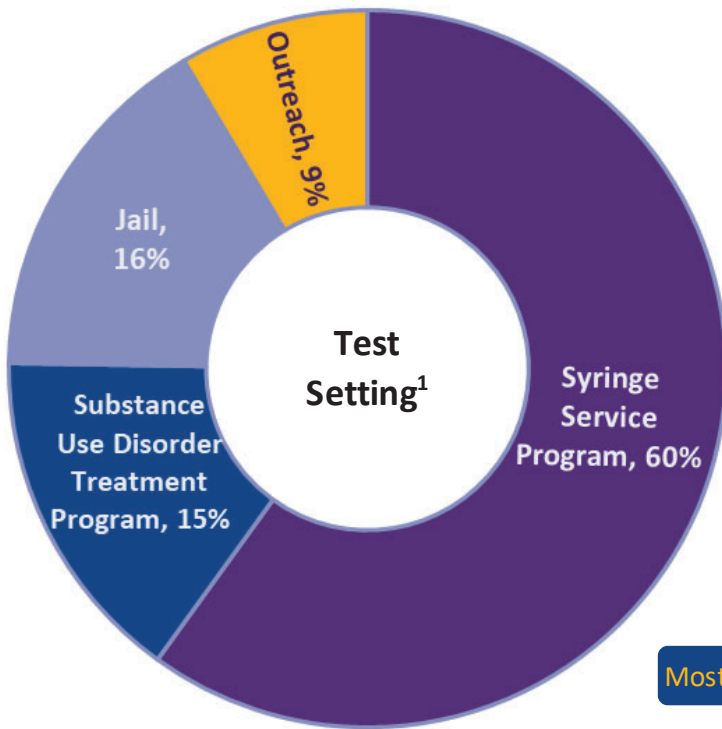
Figure 20.2: Hepatitis C Testing Program, Region of Tested Clients, 2022

Although clients tested were from across the state, most were located in New York City (33.3%) and Western New York (26.4%). These regions also had the largest number of participating testing agencies (9 and 8 respectively).



Note. Data Source: AIDS Institute Reporting System (AIRS). See New York State Department of Health Hepatitis C Testing Program fact sheet at: <https://www.health.ny.gov/publications/1805.pdf>.

Figure 20.3: Hepatitis C Testing Program, Test Setting, and Availability of Onsite Hepatitis C RNA Testing, 2022



RNA testing is needed to confirm or rule-out current hepatitis C infection in individuals with a reactive antibody test. Offering RNA testing onsite can reduce barriers to receiving this diagnostic test.

86.3% of antibody positive clients tested at agencies offering RNA tests onsite received an RNA test.

vs

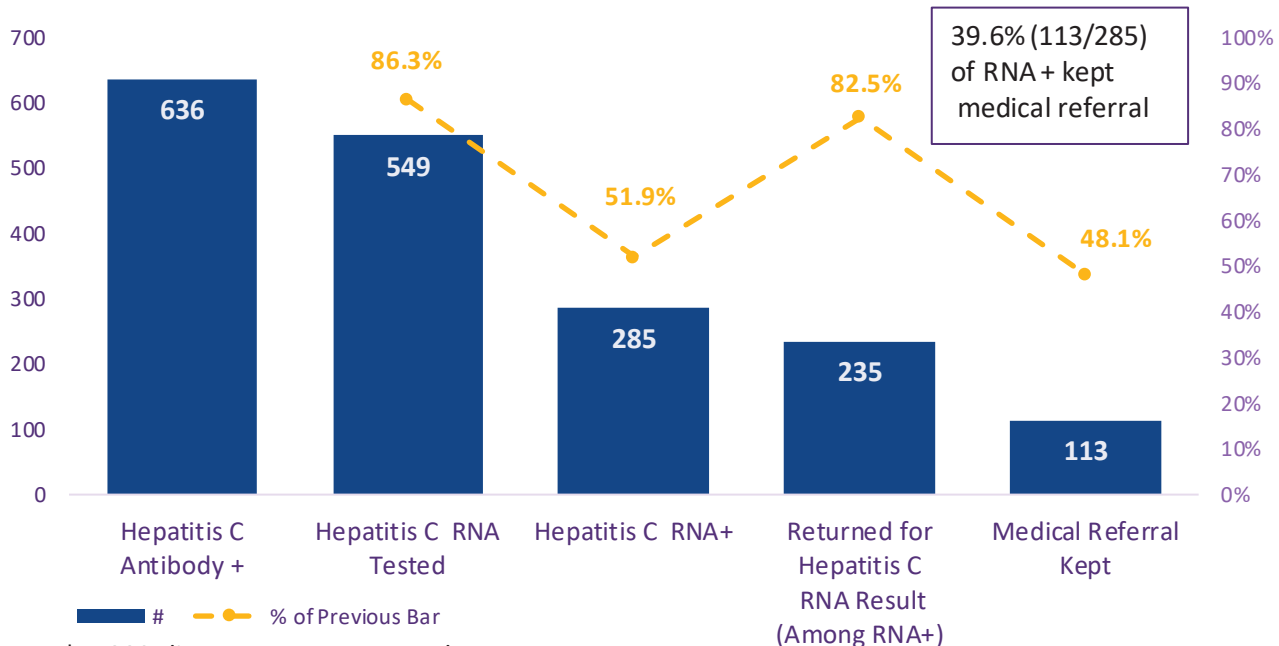
66.7% of antibody positive clients tested at agencies that referred offsite for RNA tests received an RNA test.

Most clients were tested at agencies offering onsite RNA testing



¹ <1% of clients were tested at a Community Based Organization

Figure 20.4: Hepatitis C Testing Program, Hepatitis C Care Continuum at Agencies That Offer On-Site Hepatitis C RNA Testing*, 2022

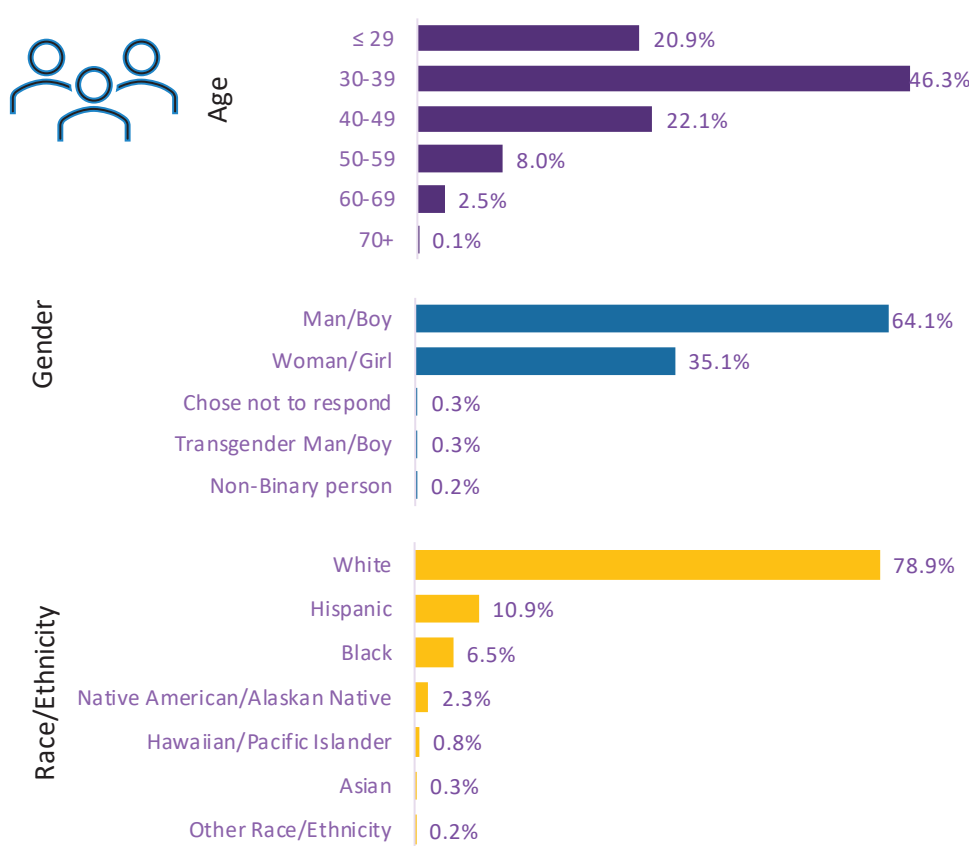


* 1,883 clients were tested.

New York State Hepatitis C Patient Navigation Program

The Hepatitis C Patient Navigation Program aims to increase the number of persons who inject drugs (PWID) who know their hepatitis C status and are linked to hepatitis C medical care and treatment. This is done by addressing patient- and systems-level barriers to hepatitis C care and treatment. The Program is based in seven Drug User Health Hubs located outside New York City (NYC). As expansions to Syringe Services Programs, the Health Hubs improve availability and accessibility of an array of health, mental health, and medication assisted treatment services. This summary describes the characteristics and outcomes of patients enrolled in the initiative from Nov. 2018 through Oct. 2022.

Figure 21.1: Patient Navigation Program, Patient Demographics, 2018-2022



From Nov. 2018-Oct. 2022

7
Navigation Programs
1,071
Clients enrolled

95.6%
have a history of injection drug use

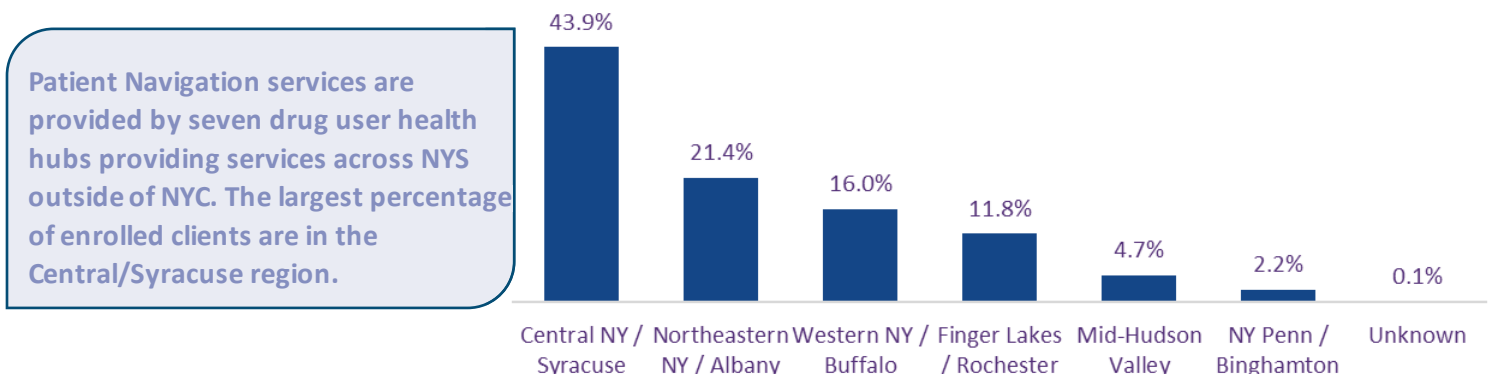
19.0%
are in a residential drug treatment facility

11.2%
are homeless, living on the street or in a shelter

1.0%
are in a carceral setting (jail/prison)

91.1%
are insured by Medicaid

Figure 21.2: Patient Navigation Program, Region of Residence of Enrolled Patients, 2018-2022



Note. Data Source: AIDS Institute Reporting System (AIRS). See fact sheet available online at:

https://www.health.ny.gov/diseases/communicable/hepatitis/hepatitis_c/docs/patient_navigation_program.pdf

Figure 21.3: Patient Navigation Program, Patient Referral Source, 2018-2022

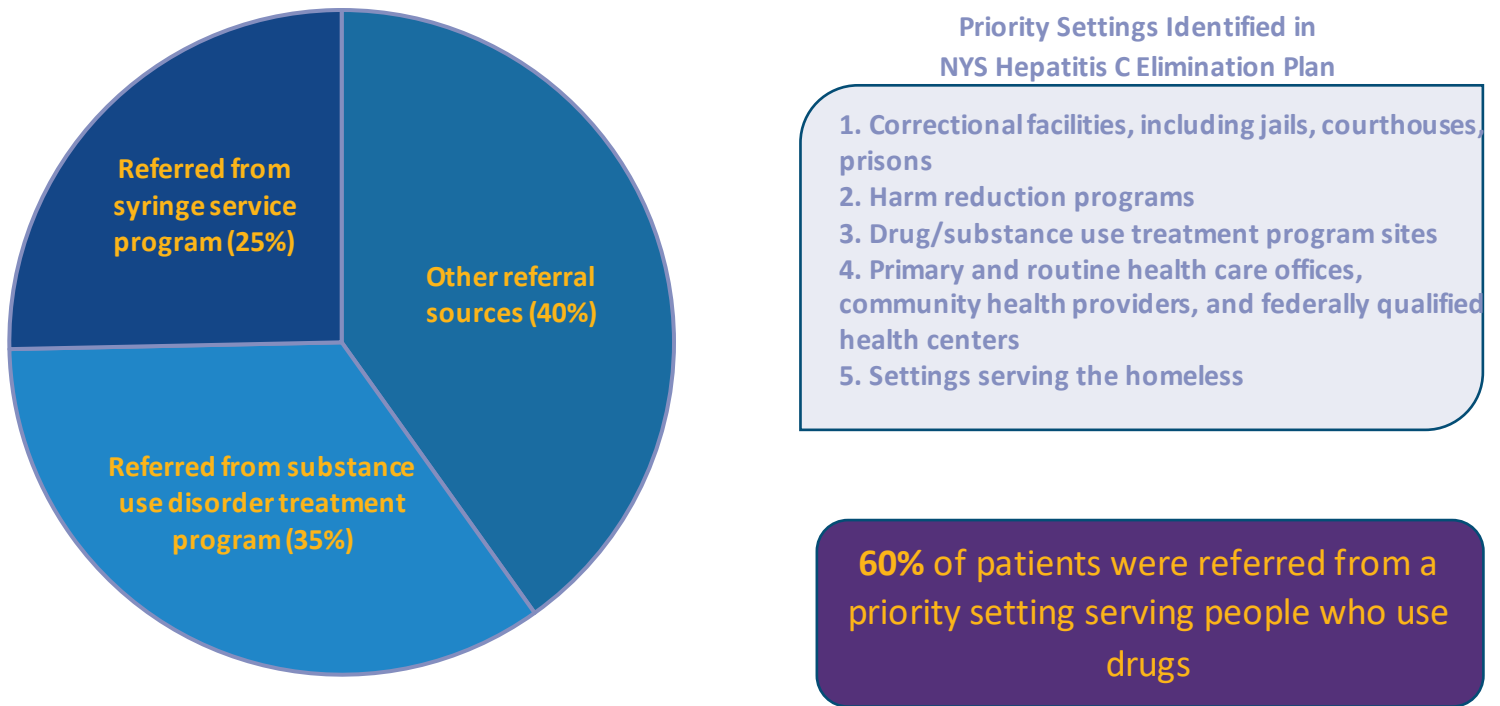
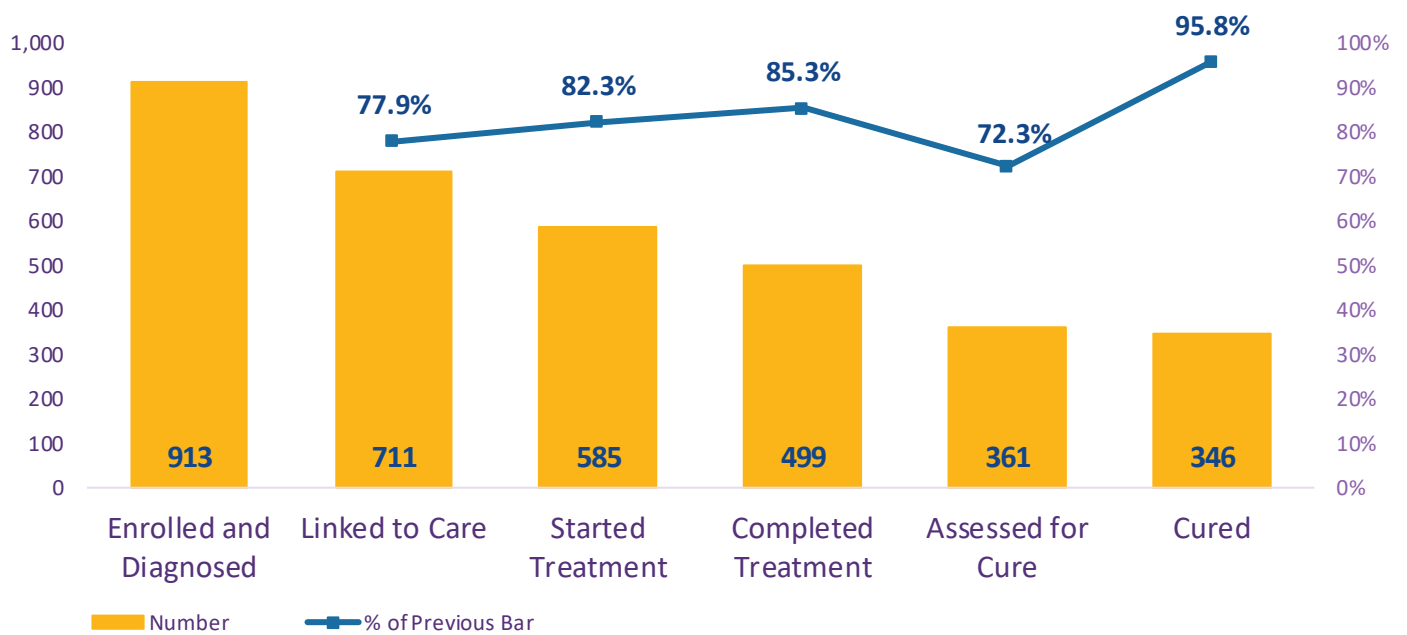


Figure 21.4: Patient Navigation Program, Hepatitis C Care Continuum: 2018-2022*



*Includes patients enrolled any time from Nov. 1, 2018 through Oct. 31, 2022 and reflects treatment status as of December 7, 2023.

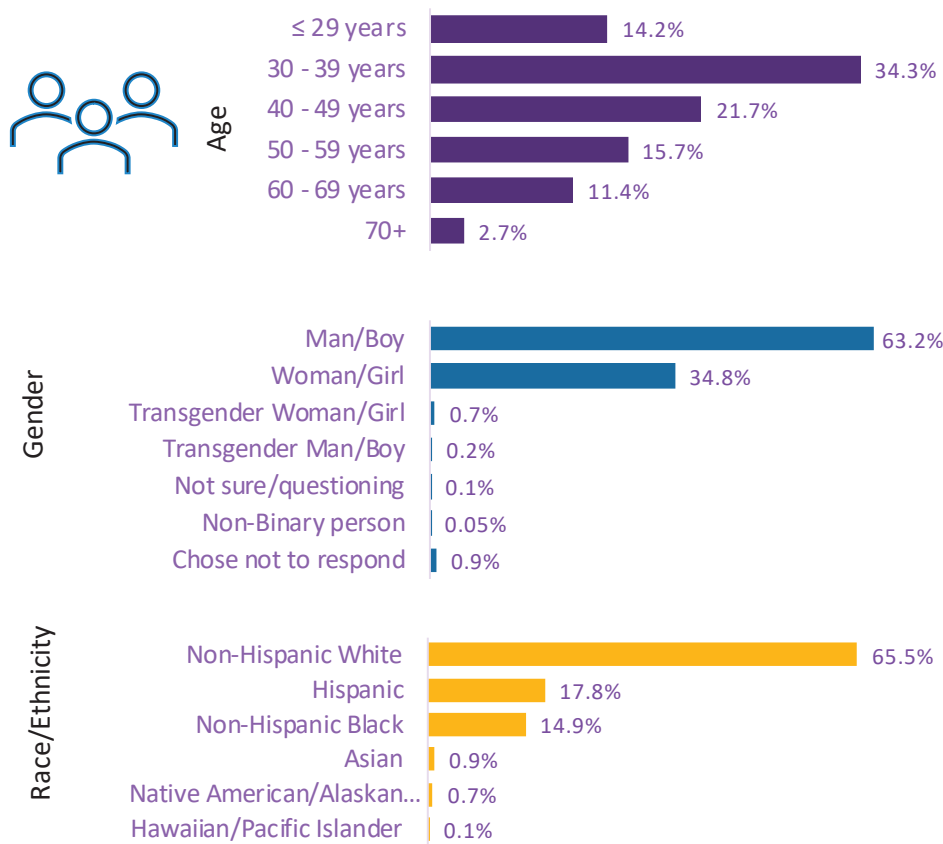
Infographic 22: New York State Hepatitis C Initiatives, Hepatitis C Care and Treatment Initiative, 2023

New York State Hepatitis C Care and Treatment Initiative

The Hepatitis C Care and Treatment initiative supports primary care-based integrated models of hepatitis C care and treatment within Article 28 health care facilities that will: 1) increase the number of people living with hepatitis C who are linked to care; 2) increase hepatitis C treatment initiation and completion rates; and 3) increase the number of people cured of hepatitis C. This is accomplished by conducting targeted outreach and recruitment, linkage, and care coordination to assist people with hepatitis C and HIV/ hepatitis C in accessing timely hepatitis C medical care and appropriate supportive services delivered by a multidisciplinary team in a primary care setting. This summary describes the characteristics and outcomes of clients enrolled in the initiative from June 2021 through May 2023.

Figure 22.1: Hepatitis C Care and Treatment Initiative, Client Demographics, 2021-2023

From June 2021 through May 2023,



14
Programs

2,058
Patients Enrolled

78.4%

have a history of injection drug use

7.7%

are homeless,
living on the street or in a shelter

18.7%

are in a residential drug
treatment program

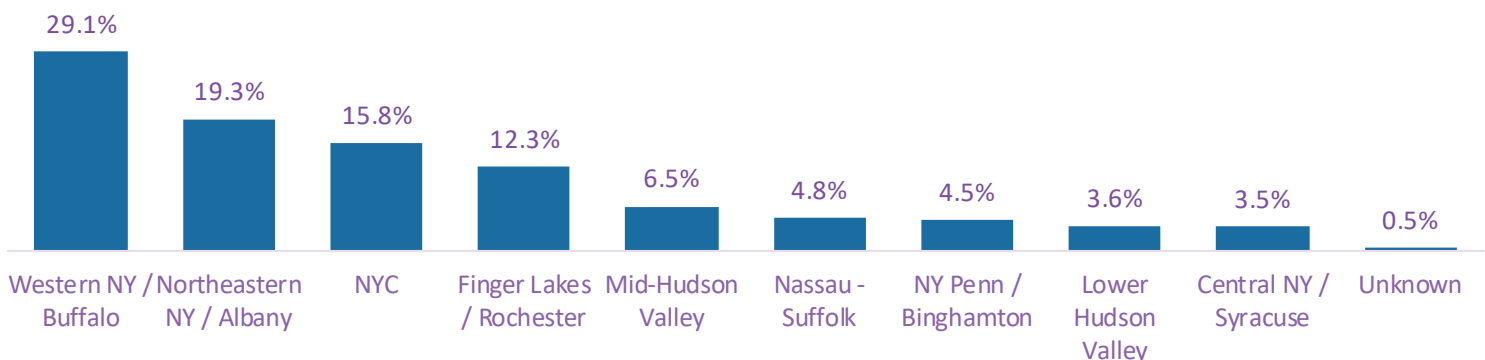
0.7%

are in a correctional facility
(jail/prison)

78.1%

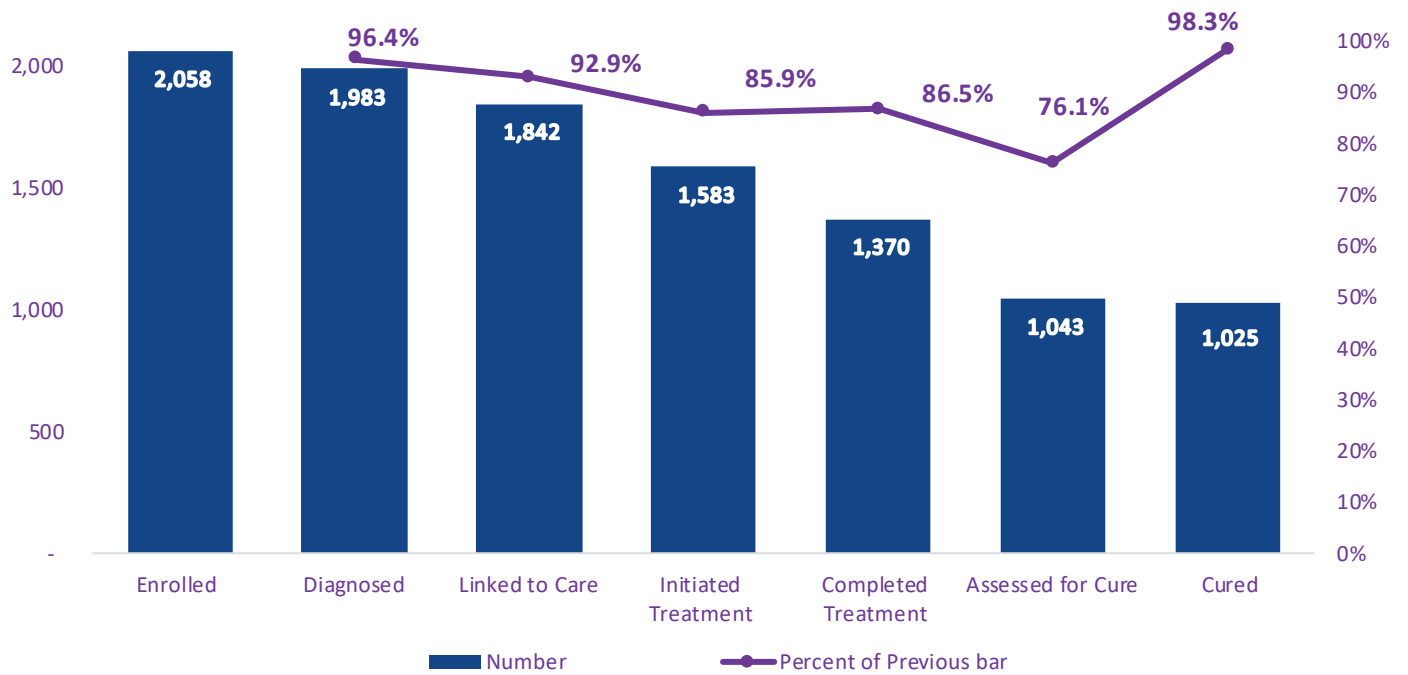
are insured by Medicaid

Figure 22.2: Hepatitis C Care and Treatment Program, Region of Residence of Enrolled Clients, 2021-2023



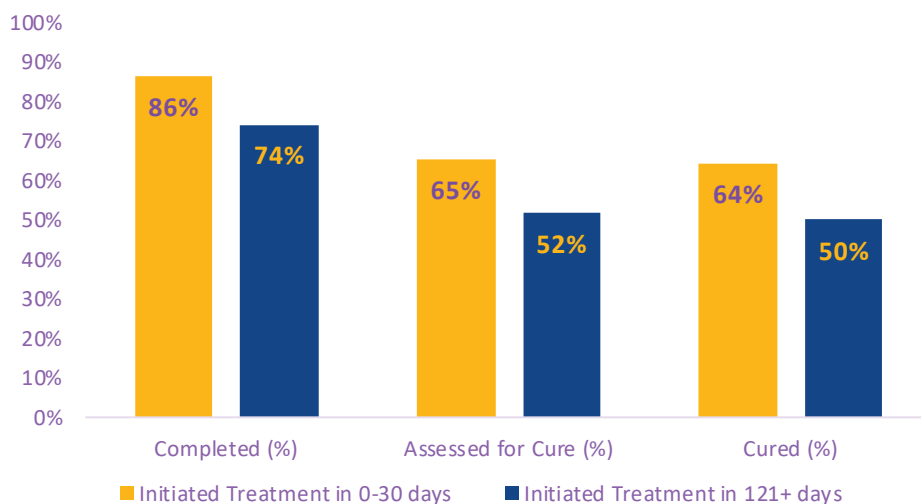
Note. Data Source: AIDS Institute Reporting System (AIRS).

Figure 22.3: Hepatitis C Care and Treatment Program, Care Continuum, 2021-2023*



* Includes patients enrolled any time from June 1, 2021 through May 30, 2023 and reflects treatment status as of March 18, 2024.

Figure 22.4: Hepatitis C Care and Treatment Program, Care Continuum, Percent of Enrolled Patients Progressing Through Continuum by Days from Enrollment to Treatment, 2021-2023*



Rapid treatment initiation is associated with higher levels of cure. Patients who initiated hepatitis C treatment within 30 days of enrollment were more likely to complete treatment, be assessed for cure, and cured than patients who took 4 months or more to initiate treatment.

Infographic 23: New York State Hepatitis C Initiatives, Innovative Models Initiative, 2023

New York State Hepatitis C Innovative Models Initiative

The Hepatitis C Innovative Models of Care Initiative addresses the needs and barriers people who inject drugs (PWID) who are diagnosed with hepatitis C face when hepatitis C services in traditional health care settings. Three agencies, each with a different model, are funded to provide hepatitis C services in a non-traditional setting, including: co-location at a syringe exchange program/drug user health hub, onsite at a drug treatment program, and via mobile van or tele-health technology. This summary describes the characteristics and outcomes of clients enrolled in the initiative from July 2019 through June 2023.

Figure 23.1: Innovative Models, Client Demographics, 2019-2023

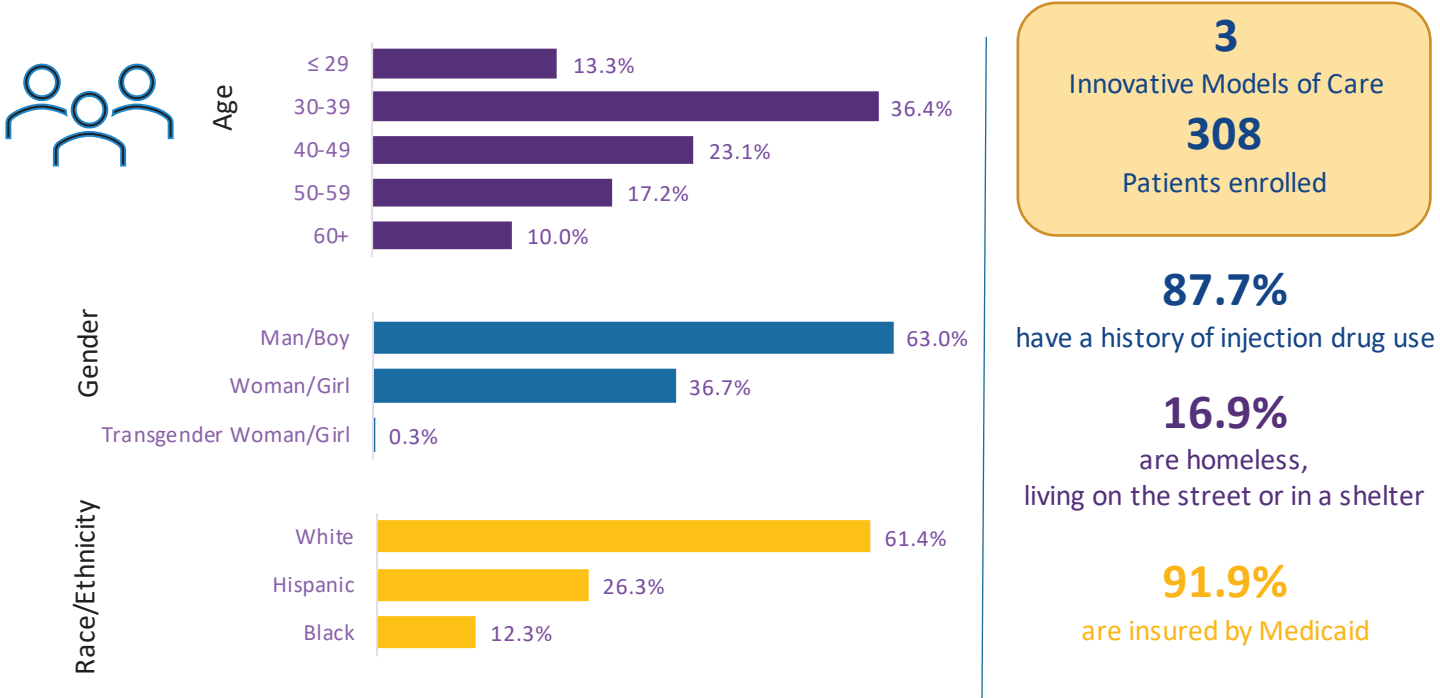
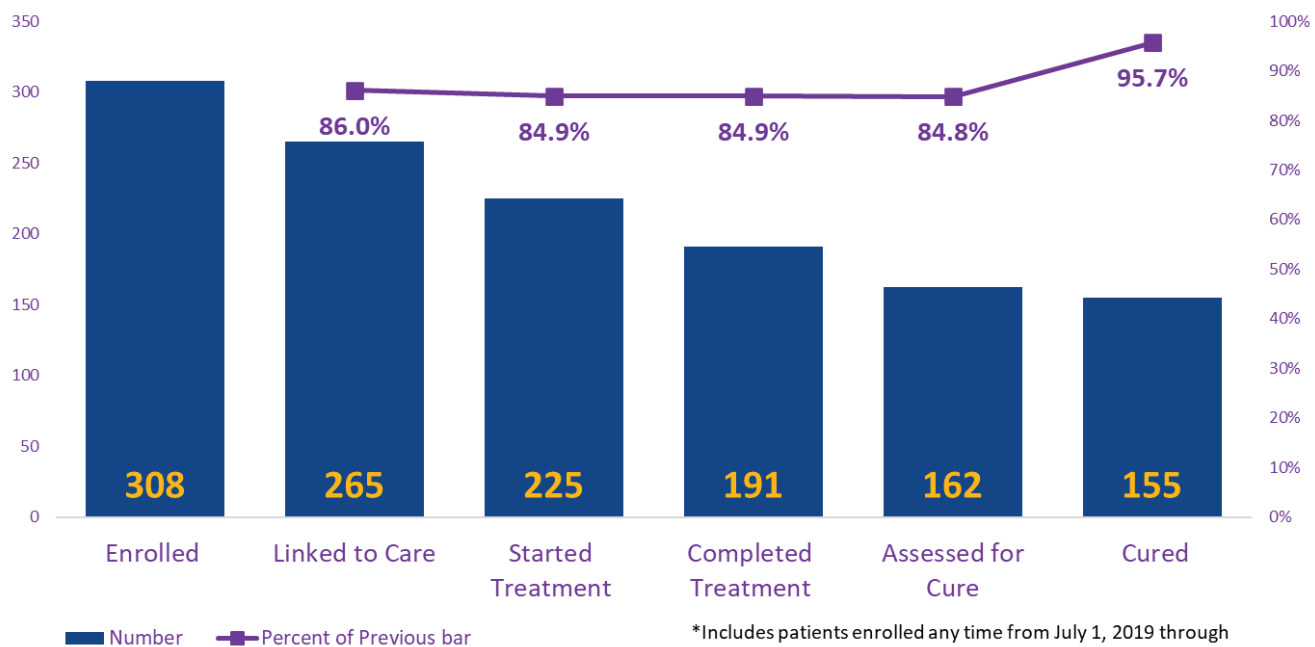


Figure 23.2: Innovative Models, Hepatitis C Care Continuum, 2019-2023*



Note: Data source: AIDS Institute Reporting System (AIRS).

Data Appendices

DATA APPENDIX 1- HEPATITIS B SURVEILLANCE DATA
Table 1.1: Newly Reported Hepatitis B Cases, By Sex, Age, and Region, NYS (excl. NYC), 2023

	Female		Male		Total	
	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.
<i>Total</i>	940	16.4	1,203	21.3	2,145	18.8
Perinatal	0	N/A	0	N/A	0	N/A
Acute	10	0.2	16	0.3	26	0.2
Chronic	930	16.2	1,187	21.1	2,119	18.6
<i>Age</i>						
<2 years	0	N/A	0	N/A	0	N/A
2-9	3	N/A	5	N/A	8	N/A
10-14	3	0.9	4	1.1	7	1.0
15-19	11	3.0	21	5.4	32	4.2
20-24	42	11.4	49	12.7	91	12.1
25-29	70	20.5	69	19.2	140	20.0
30-34	98	28.8	101	28.6	199	28.7
35-39	113	33.1	153	43.9	266	38.5
40-44	110	33.4	155	46.6	266	40.2
45-49	89	26.1	119	35.0	208	30.5
50-54	86	22.1	113	29.3	199	25.7
55-59	83	19.3	97	23.1	180	21.2
60-64	84	20.6	102	25.7	186	23.1
65-69	55	16.0	80	24.7	135	20.2
70-74	37	13.0	61	24.1	98	18.2
75-79	27	13.5	35	21.5	62	17.1
80+	29	9.5	39	20.8	68	13.8
<i>Region of Residence</i>						
Central/Syracuse	77	10.7	101	14.1	178	12.4
FingerLakes/Rochester	46	7.1	56	8.9	102	8.0
Lower Hudson Valley	177	24.1	207	29.3	384	26.7
Mid Hudson Valley	47	9.9	95	19.7	142	14.8
NY Penn/Binghamton	5	3.4	11	7.5	16	5.4
Nassau-Suffolk	431	29.2	502	34.8	935	32.0
Northeast/Albany	69	9.1	75	9.9	144	9.5
Western NY	86	10.9	121	15.8	207	13.3

Notes. There were no perinatal hepatitis B cases in NYS (excluding NYC) in 2023. Two chronic hepatitis B cases had unknown sex. Data represents case counts and rates excluding NYC. Cases are presented in this report by sex at birth. Gender identity information is not presented. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report. Total population counts for calculated rates are based upon the US Census 2020 data. Cases among persons incarcerated in the Department of Corrections and Community Supervision (DOCCS) are excluded from regional counts and rates.

Table 1.2: Newly Reported Hepatitis B Cases, by Year and Sex, NYS (excl. NYC), 2012-2023

	Female		Male		Total	
	Total Number of Cases	Rate per 100,000 pop.	Total Number of Cases	Rate per 100,000 pop.	Total Number of Cases	Rate per 100,000 pop.
2012	700	12.2	936	16.6	1,646	14.5
2013	703	12.2	1,095	19.4	1,808	15.9
2014	736	12.8	1,105	19.6	1,846	16.2
2015	776	13.5	1,066	18.9	1,844	16.2
2016	816	14.2	1,075	19.1	1,894	16.6
2017	848	14.8	1,147	20.3	1,995	17.5
2018	764	13.3	1,097	19.5	1,864	16.4
2019	792	13.8	1,072	19.0	1,866	16.4
2020	686	11.9	848	15.0	1,542	13.5
2021	789	13.7	1,007	17.9	1,798	15.8
2022	894	15.6	1,090	19.3	1,986	17.4
2023	940	16.4	1,203	21.3	2,145	18.8

Table 1.3: Newly Reported Hepatitis B Cases, by Year, NYS (excl. NYC), 2012-2023

	No. of Chronic Cases	No. of Acute Cases	No. of Total Cases	Rate per 100,000 pop.
2012	1,594	52	1,646	14.5
2013	1,759	49	1,808	15.9
2014	1,806	40	1,846	16.2
2015	1,812	32	1,844	16.2
2016	1,852	42	1,894	16.6
2017	1,958	37	1,995	17.5
2018	1,832	32	1,864	16.4
2019	1,814	52	1,866	16.4
2020	1,517	25	1,542	13.5
2021	1,774	24	1,798	15.8
2022	1,967	19	1,986	17.4
2023	2,119	26	2,145	18.8

Notes. The acute and chronic hepatitis B case definition has remained unchanged between 2012 -2023. Denominators for rates per 100,000 population use US Census 2020 data for comparison purposes. Cases are presented by sex at birth. Gender identity information is not presented in this report. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 1.4: Newly Reported Hepatitis B Cases Among Females and Percent Aged 15-44, NYS (excl. NYC), 2012-2023

	Total No. of Cases in Females	No. of cases in Females of reproductive Age (15-44 years)	Percent of cases in females of reproductive age (15-44 years)
2012	700	396	56.6%
2013	703	401	57.0%
2014	736	415	56.4%
2015	776	420	54.1%
2016	816	440	53.9%
2017	848	455	53.7%
2018	764	410	53.7%
2019	792	438	55.3%
2020	686	328	47.8%
2021	789	388	49.2%
2022	894	423	47.3%
2023	940	444	47.2%

Notes. The acute and chronic hepatitis B case definition has remained unchanged between 2012-2023. Cases are presented by sex at birth. Gender identity information is not present in this report. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

**Table 1.5: Newly Reported Hepatitis B Cases and Rates per 100,000 pop.,
by NYS Region (excl. NYC), 2012- 2023**

	Central/Syracuse		FingerLakes/Rochester		Lower Hudson Valley		Mid Hudson Valley	
	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.
2012	181	12.6	115	9.0	215	14.9	124	13.0
2013	204	14.2	128	10.0	384	26.7	107	11.2
2014	212	14.8	139	10.9	301	20.9	124	13.0
2015	197	13.8	132	10.3	300	20.8	131	13.7
2016	185	12.9	109	8.5	333	23.1	117	12.2
2017	186	13.0	148	11.6	361	25.1	132	13.8
2018	163	11.4	103	8.1	318	22.1	136	14.2
2019	129	9.0	108	8.5	358	24.9	111	11.6
2020	133	9.3	103	8.1	235	16.3	115	12.0
2021	147	10.3	95	7.4	318	22.1	105	11.0
2022	151	10.5	111	8.7	303	21.1	134	14.0
2023	178	12.4	102	8.0	384	26.7	142	14.8

**Table 1.5: Newly Reported Hepatitis B Cases and Rates per 100,000 pop.,
by NYS Region (excl. NYC), 2012- 2023 (cont'd)**

	NY Penn/Binghamton		Nassau-Suffolk		Northeastern NY/Albany		Western NY/Buffalo		Statewide Total	
	No. of Cases	Rate per 100,000 pop.	No. of Cases	Rate per 100,000 pop.	No. of Cases	Rate per 100,000 pop.	No. of Cases	Rate per 100,000 pop.	No. of Cases	Rate per 100,000 pop.
2012	23	7.8	607	20.8	124	8.2	196	12.6	1,646	14.5
2013	16	5.4	590	20.2	129	8.5	172	11.1	1,808	15.9
2014	20	6.8	658	22.5	168	11.1	174	11.2	1,846	16.2
2015	17	5.8	672	23.0	148	9.8	203	13.1	1,844	16.2
2016	28	9.5	727	24.9	158	10.5	192	12.3	1,894	16.6
2017	15	5.1	787	27.0	160	10.6	158	10.2	1,995	17.5
2018	21	7.2	721	24.7	194	12.9	152	9.8	1,864	16.4
2019	26	8.9	737	25.3	174	11.5	181	11.6	1,866	16.4
2020	26	8.9	633	21.7	115	7.6	161	10.4	1,542	13.5
2021	24	8.2	709	24.3	157	10.4	220	14.1	1,798	15.8
2022	30	10.2	797	27.3	152	10.1	276	17.7	1,986	17.4
2023	16	5.4	935	32.0	144	9.5	207	13.3	2,145	18.8

Notes. The acute and chronic case definition has remained unchanged between 2012-2023. Cases among persons that are incarcerated in the Department of Corrections and Community Supervision (DOCCS) are excluded from regional case counts. Denominators for rates per 100,000 population use US Census 2020 data for comparison purpose. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 1.6: Newly Reported Hepatitis B Cases and Rates per 100,000 pop, by County, NYS (excl. NYC), 2023

County	Number of Cases	2020 Population	Rate per 100,000 Pop.	County	Number of Cases	2020 Population	Rate per 100,000 Pop.
Albany	75	314,368	23.9	Niagara	17	212,252	8.0
Allegany	1	46,373	2.2	Oneida	38	231,695	16.4
Broome	13	198,199	6.6	Onondaga	78	475,653	16.4
Cattaraugus	1	76,907	1.3	Ontario	4	112,475	3.6
Cayuga	9	76,095	11.8	Orange	71	401,322	17.7
Chautauqua	6	127,424	4.7	Orleans	3	40,236	7.5
Chemung	3	83,882	3.6	Oswego	6	117,351	5.1
Chenango	1	47,073	2.1	Otsego	1	58,351	1.7
Clinton	4	79,715	5.0	Putnam	11	97,660	11.3
Columbia	2	61,550	3.2	Rensselaer	9	160,923	5.6
Cortland	4	46,723	8.6	Rockland	72	338,121	21.3
Delaware	1	44,186	2.3	Saratoga	13	235,689	5.5
Dutchess	46	295,742	15.6	Schenectady	22	157,861	13.9
Erie	164	953,254	17.2	Schoharie	1	29,720	3.4
Essex	3	37,336	8.0	Schuyler	0	17,857	0.0
Franklin	4	47,527	8.4	Seneca	0	33,715	0.0
Fulton	0	53,160	0.0	St. Lawrence	14	108,311	12.9
Genesee	13	58,258	22.3	Steuben	5	93,363	5.4
Greene	2	47,890	4.2	Suffolk	272	1,524,099	17.8
Hamilton	0	5,078	0.0	Sullivan	10	78,643	12.7
Herkimer	1	60,007	1.7	Tioga	2	48,355	4.1
Jefferson	9	116,134	7.7	Tompkins	11	105,404	10.4
Lewis	0	26,538	0.0	Ulster	15	181,687	8.3
Livingston	1	61,699	1.6	Warren	1	65,638	1.5
Madison	8	67,890	11.8	Washington	4	61,143	6.5
Monroe	87	758,554	11.5	Wayne	1	91,103	1.1
Montgomery	2	49,433	4.0	Westchester	301	1,003,245	30.0
Nassau	663	1,393,978	47.6	Wyoming	2	40,401	5.0
				Yates	1	24,709	4.0

Notes. Cases among persons that are incarcerated in the Department of Corrections and Community Supervision (DOCCS) are excluded from regional case counts. Denominators for rates per 100,000 population use US Census 2020 data for comparison purpose. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 1.7: Newly Reported Hepatitis B Cases, by Age, Race, and Ethnicity, NYS (excl. NYC), 2023

		Persons <40 Years of Age		Persons 40+ Years of Age		Total	
		Number of Cases	Percent of Cases	Number of Cases	Percent of Cases	Number of Cases	Percent of Cases
<i>Race</i>							
	White	87	11.7%	292	20.8%	379	17.7%
	Black	116	15.6%	169	12.1%	285	13.3%
	American Indian/Alaskan	2	0.3%	5	0.4%	7	0.3%
	Asian	168	22.6%	326	23.3%	494	23.0%
	Other	92	12.4%	121	8.6%	213	9.9%
	Unknown	278	37.4%	489	34.9%	767	35.8%
<i>Ethnicity</i>							
	Hispanic	55	7.4%	91	6.5%	146	6.8%
	Non-Hispanic	295	39.7%	595	42.4%	890	41.5%
	Unknown	393	52.9%	716	51.1%	1,109	51.7%

Table 1.8: Newly Reported Hepatitis B Cases, by Sex, Race, and Ethnicity, NYS (excl. NYC), 2023

		Female		Male		Total	
		Number of Cases	Percent of Cases	Number of Cases	Percent of Cases	Number of Cases	Percent of Cases
<i>Race</i>							
	White	152	16.2%	227	18.9%	379	17.7%
	Black	118	12.6%	167	13.9%	285	13.3%
	American Indian/Alaskan	2	0.2%	5	0.4%	7	0.3%
	Asian	244	26.0%	250	20.8%	494	23.0%
	Other	90	9.6%	123	10.2%	213	9.9%
	Unknown	334	35.5%	431	35.8%	767	35.8%
<i>Ethnicity</i>							
	Hispanic	59	6.3%	87	7.2%	146	6.8%
	Non-Hispanic	387	41.2%	503	41.8%	890	41.5%
	Unknown	494	52.6%	613	51.0%	1,109	51.7%

Notes. Race and ethnicity information is collected through laboratory reporting and case investigation. “Other” represents Other, unspecified race. Information on race and ethnicity is often missing from surveillance case reports. Cases are presented by sex at birth. Gender identity information is not present in this report. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 1.9: Newly Reported Acute Hepatitis B Cases, by Risk Factor, NYS (excl. NYC) 2023

	Yes		No		Unknown		Total
	Number of Cases	Percent	Number of Cases	Percent	Number of Cases	Percent	Number of Cases
Unvaccinated against hepatitis B	11	42.3%	4	15.4%	11	42.3%	26
Other, non-injection drug use	5	19.2%	17	65.4%	4	15.4%	26
>1 sex partner	4	15.4%	10	38.5%	12	46.2%	26
MSM (Men who has sex with men)	4	25.0%	10	62.5%	2	12.5%	16
Injection drug use	3	11.5%	22	84.6%	1	3.8%	26
Close contact with person who has hepatitis B	3	11.5%	10	38.5%	13	50.0%	26
Tattoo or Piercing	2	7.7%	0	0.0%	24	92.3%	26
Diabetic	2	7.7%	21	80.8%	3	11.5%	26
Incarceration	1	3.8%	21	80.8%	4	15.4%	26
Treated for a sexually transmitted infection	1	3.8%	23	88.5%	2	7.7%	26
Underwent hemodialysis	1	3.8%	21	80.8%	4	15.4%	26
Worked in public safety/medical field	1	3.8%	22	84.6%	3	11.5%	26

Table 1.10: Newly Reported Chronic Hepatitis B Cases, by Risk Factor, NYS (excl. NYC) 2023

	Yes		No		Unknown		Total
	Number of Cases	Percent	Number of Cases	Percent	Number of Cases	Percent	Number of Cases
Unvaccinated against hepatitis B	254	12.0%	117	5.5%	1,748	82.5%	2,119
Close contact with a person with hepatitis B	110	5.2%	302	14.3%	1,707	80.6%	2,119
Diabetic	79	3.7%	662	31.2%	1,378	65.0%	2,119
Treated for sexually transmitted infections (STI)	37	1.7%	416	19.6%	1,666	78.6%	2,119
Ever incarcerated	30	1.4%	470	22.2%	1,619	76.4%	2,119
Other, non-injection drug use	29	1.4%	533	25.2%	1,557	73.5%	2,119
Injection drug use	25	1.2%	571	26.9%	1,523	71.9%	2,119
Worked in public safety/medical field	22	1.0%	586	27.7%	1,511	71.3%	2,119
MSM (Men who has sex with men)	18	1.5%	229	19.3%	940	79.2%	1,187
Underwent hemodialysis	15	0.7%	709	33.5%	1,395	65.8%	2,119

Notes. MSM presents cases assigned male sex at birth who have reported having at least 1 male sexual partner. Risk factors for acute cases are collected for 160 days, approximately 6 months, prior to their positive test results. Risk factors for chronic cases are collected through an individual's lifetime. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

DATA APPENDIX 2 - HEPATITIS C SURVEILLANCE DATA
Table 2.1: Newly Reported Cases of Hepatitis C, By Sex, Age, and Region, NYS (excl. NYC), 2023

	<i>Female</i>		<i>Male</i>		<i>Total</i>	
	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.
<i>Total</i>	1,107	19.3	1,810	32.1	2,921	25.7
Perinatal	6	N/A	3	N/A	9	N/A
Acute	78	1.4	129	2.3	207	1.8
Chronic	1,023	17.8	1,678	29.8	2,705	23.8
<i>Age</i>						
<3 years	6	N/A	3	N/A	9	N/A
3-9	5	N/A	3	N/A	8	N/A
10-14	2	0.6	0	0.0	2	0.3
15-19	15	4.1	11	2.8	26	3.4
20-24	50	13.6	44	11.4	94	12.5
25-29	124	36.4	178	49.5	302	43.1
30-34	190	55.8	276	78.2	467	67.4
35-39	146	42.7	257	73.7	404	58.5
40-44	104	31.6	213	64.0	317	47.9
45-49	74	21.7	144	42.3	219	32.2
50-54	63	16.2	123	31.9	186	24.0
55-59	62	14.4	118	28.1	180	21.2
60-64	71	17.4	151	38.1	222	27.6
65-69	86	25.0	139	43.0	225	33.7
70-74	48	16.8	91	35.9	139	25.8
75-79	32	16.0	39	24.0	72	19.9
80+	29	9.5	20	10.7	49	10.0
<i>Region of Residence</i>						
Central/Syracuse	166	23.2	263	36.8	431	30.1
FingerLakes/Rochester	104	16.0	154	24.5	259	20.3
Lower Hudson Valley	97	13.2	149	21.1	246	17.1
Mid Hudson Valley	117	24.6	232	48.2	350	36.6
NY Penn/Binghamton	48	32.6	79	54.0	127	43.3
Nassau-Suffolk	206	13.9	286	19.9	492	16.9
Northeast/Albany	172	22.8	272	36.1	444	29.4
Western NY	177	22.4	277	36.2	454	29.2

Notes. Total case count includes 4 cases of chronic hepatitis C that have an unknown sex at birth. Cases are presented by sex at birth. Gender identity information is not presented in this report. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report. Total population counts for rates are based on the US Census 2020 data. Cases among persons incarcerated in the Department of Corrections and Community Supervision (DOCCS) are excluded from regional case counts.

Table 2.2: Newly Reported Hepatitis C Cases Among Females and Percent Aged 15-44, NYS (excl. NYC), 2012-2023

	Total Number of Cases in Females	No. of cases in females of Reproductive Age (15-44 years)	Percent of cases in females of reproductive age (15-44 years)
2012	2,531	1,097	43.3%
2013	2,568	1,312	51.1%
2014	3,363	1,615	48.0%
2015	3,255	1,843	56.6%
2016	3,260	1,925	59.0%
2017	3,198	1,918	60.0%
2018	2,643	1,651	62.5%
2019	2,119	1,327	62.6%
2020	1,508	942	62.5%
2021	1,475	901	61.1%
2022	1,259	757	60.1%
2023	1,107	629	56.8%

Table 2.3: Newly Reported Hepatitis C Cases, by Sex and Year, NYS (excl. NYC) 2012-2023

	Female		Male		Total	
	Total Number of Cases	Rate per 100,000 pop.	Total Number of Cases	Rate per 100,000 pop.	Total Number of Cases	Rate per 100,000 pop.
2012	2,531	44.1	4,337	76.9	6,887	60.5
2013	2,568	44.7	4,305	76.4	6,892	60.6
2014	3,363	58.5	5,411	96.0	8,819	77.5
2015	3,255	56.7	5,266	93.4	8,570	75.3
2016	3,260	56.7	5,033	89.3	8,323	73.1
2017	3,198	55.7	5,006	88.8	8,213	72.2
2018	2,643	46.0	4,264	75.7	6,912	60.7
2019	2,119	36.9	3,530	62.6	5,659	49.7
2020	1,508	26.2	2,609	46.3	4,121	36.2
2021	1,475	25.7	2,482	44.0	3,962	34.8
2022	1,259	21.9	2,115	37.5	3,379	29.7
2023	1,107	19.3	1,810	32.1	2,921	25.7

Notes. The acute and chronic hepatitis C case definition was updated in 2016 and 2020. Comparisons across years should be interpreted with caution. Data quality activities performed by the Bureau of Hepatitis Health Care and Epidemiology have influenced changes in case counts and rates across previous years' reports. Denominators for rates per 100,000 population use US Census 2020 data for comparison purposes. Cases are presented by sex at birth. Gender identity information is not presented in this report. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 2.4: Newly Reported Hepatitis C Cases, by Year, NYS (excl. NYC), 2012-2023

	Number of Chronic Cases	Number of Acute Cases	Number of Total Cases	Rate per 100,000 pop.
2012	6,807	80	6,887	60.5
2013	6,777	115	6,892	60.6
2014	8,705	114	8,819	77.5
2015	8,457	113	8,570	75.3
2016	8,125	198	8,323	73.1
2017	8,010	203	8,213	72.2
2018	6,666	237	6,912	60.7
2019	5,396	251	5,659	49.7
2020	3,789	327	4,121	36.2
2021	3,673	281	3,962	34.8
2022	3,119	256	3,379	29.7
2023	2,705	207	2,921	25.7

Table 2.5: Newly Reported Hepatitis C Cases in Person under 40 Years of Age and Persons Born Between 1945-1965, NYS (excl. NYC), 2012-2023

	Number of cases <40 years of age at time of diagnosis	Percent of total cases <40 years of age at the time of diagnosis	Number of cases born between 1945-1965**	Percent of total cases born between 1945-1965
2012	2,229	32.4%	3,621	52.6%
2013	2,707	39.3%	3,141	45.6%
2014	3,452	39.1%	4,094	46.4%
2015	3,950	46.1%	3,353	39.1%
2016	4,074	48.9%	2,876	34.6%
2017	4,179	50.9%	2,624	31.9%
2018	3,547	51.3%	2,056	29.7%
2019	2,873	50.8%	1,580	27.9%
2020	2,075	50.4%	1,103	26.8%
2021	1,936	48.9%	1,055	26.6%
2022	1,593	47.1%	874	25.9%
2023	1,312	44.9%	724	24.8%

Note. Cases born between 1945-1965 represent the 'Baby Boomer' population. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 2.6: Newly Reported Hepatitis C Cases and Rates per 100,000 pop., by NYS Region (excl. NYC), 2012- 2023

	Central/Syracuse		FingerLakes/Rochester		Lower Hudson Valley		Mid Hudson Valley	
	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.
2012	789	55.1	652	51.0	992	68.9	689	72.0
2013	810	56.6	677	53.0	813	56.5	687	71.8
2014	1,098	76.7	885	69.3	929	64.6	874	91.3
2015	1,177	82.2	772	60.4	775	53.9	879	91.8
2016	1,240	86.6	719	56.3	654	45.4	805	84.1
2017	1,287	89.9	734	57.5	547	38.0	823	86.0
2018	1,066	74.5	665	52.1	509	35.4	683	71.3
2019	947	66.1	515	40.3	476	33.1	615	64.2
2020	779	54.4	368	28.8	325	22.6	432	45.1
2021	735	51.3	332	26.0	297	20.6	486	50.8
2022	582	40.6	340	26.6	227	15.8	363	37.9
2023	431	30.1	259	20.3	246	17.1	350	36.6

Table 2.6: Newly Reported Hepatitis C Cases and Rates per 100,000 pop., by NYS Region (excl. NYC), 2012- 2023 (cont'd)

	NY Penn/Binghamton		Nassau-Suffolk		Northeastern NY/Albany		Western NY/Buffalo		Statewide Total	
	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.
2012	180	61.3	1256	43.0	803	53.2	872	56.1	6,887	60.5
2013	214	72.9	1,325	45.4	824	54.6	984	63.3	6,892	60.6
2014	302	102.9	1,631	55.9	993	65.8	1,406	90.4	8,819	77.5
2015	295	100.5	1,503	51.5	1,056	70.0	1,449	93.2	8,570	75.3
2016	293	99.8	1,556	53.3	922	61.1	1,583	101.8	8,323	73.1
2017	325	110.7	1,404	48.1	1,081	71.6	1,510	97.1	8,213	72.2
2018	321	109.3	1,181	40.5	884	58.6	1,226	78.8	6,912	60.7
2019	254	86.5	979	33.5	788	52.2	792	50.9	5,659	49.7
2020	171	58.2	664	22.8	640	42.4	617	39.7	4,121	36.2
2021	172	58.6	581	19.9	591	39.2	604	38.8	3,962	34.8
2022	156	53.1	516	17.7	481	31.9	548	35.2	3,379	29.7
2023	127	43.3	492	16.9	444	29.4	454	29.2	2,921	25.7

Notes. The acute and chronic hepatitis C case definition was updated in 2016 and 2020. Comparisons across years should be interpreted with caution. Data quality activities performed by the Bureau of Hepatitis Health Care and Epidemiology have influenced changes in case counts and rates across previous years' reports. Denominators for rates per 100,000 population use US Census 2020 data for comparison purposes. Cases are presented by sex at birth. Gender identity information is not presented in this report. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 2.7: Newly Reported Hepatitis C Cases and Rates per 100,000 pop, by County, NYS (excl. NYC), 2023

County	Number of Cases	2020 Population	Rate per 100,000 Pop.	County	Number of Cases	2020 Population	Rate per 100,000 Pop.
Albany	97	314,368	30.9	Niagara	65	212,252	30.6
Allegany	15	46,373	32.3	Oneida	65	231,695	28.1
Broome	92	198,199	46.4	Onondaga	135	475,653	28.4
Cattaraugus	32	76,907	41.6	Ontario	15	112,475	13.3
Cayuga	23	76,095	30.2	Orange	120	401,322	29.9
Chautauqua	71	127,424	55.7	Orleans	13	40,236	32.3
Chemung	25	83,882	29.8	Oswego	35	117,351	29.8
Chenango	18	47,073	38.2	Otsego	14	58,351	24.0
Clinton	24	79,715	30.1	Putnam	19	97,660	19.5
Columbia	19	61,550	30.9	Rensselaer	41	160,923	25.5
Cortland	21	46,723	44.9	Rockland	31	338,121	9.2
Delaware	13	44,186	29.4	Saratoga	46	235,689	19.5
Dutchess	98	295,742	33.1	Schenectady	47	157,861	29.8
Erie	243	953,254	25.5	Schoharie	12	29,720	40.4
Essex	22	37,336	58.9	Schuyler	4	17,857	22.4
Franklin	23	47,527	48.4	Seneca	7	33,715	20.8
Fulton	15	53,160	28.2	St. Lawrence	35	108,311	32.3
Genesee	11	58,258	18.9	Steuben	23	93,363	24.6
Greene	12	47,890	25.1	Suffolk	294	1,524,099	19.3
Hamilton	1	5,078	19.7	Sullivan	40	78,643	50.9
Herkimer	11	60,007	18.3	Tioga	17	48,355	35.2
Jefferson	56	116,134	48.2	Tompkins	27	105,404	25.6
Lewis	9	26,538	33.9	Ulster	92	181,687	50.6
Livingston	13	61,699	21.1	Warren	30	65,638	45.7
Madison	14	67,890	20.6	Washington	11	61,143	18.0
Monroe	155	758,554	20.4	Wayne	15	91,103	16.5
Montgomery	17	49,433	34.4	Westchester	196	1,003,245	19.5
Nassau	198	1,393,978	14.2	Wyoming	4	40,401	9.9
				Yates	2	24,709	8.1

Notes. Cases among persons that are incarcerated in the Department of Corrections and Community Supervision (DOCCS) are excluded from regional case counts. Denominators for rates per 100,000 population use US Census 2020 data for comparison purpose. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 2.8: Newly Reported Hepatitis C Cases, by Sex, Race, and Ethnicity, NYS (excl. NYC), 2023

		Female		Male		Total	
		Number of Cases	Percent of Cases	Number of Cases	Percent of Cases	Number of Cases	Percent of Cases
<i>Race</i>							
	White	634	57.3%	980	54.1%	1,615	55.3%
	Black	102	9.2%	188	10.4%	290	9.9%
	American Indian/Alaskan	5	0.5%	9	0.5%	14	0.5%
	Asian/Pacific Islander	22	2.0%	24	1.3%	46	1.6%
	Other Race	87	7.9%	182	10.1%	270	9.2%
	Unknown Race	257	23.2%	427	23.6%	686	23.5%
<i>Ethnicity</i>							
	Hispanic	72	6.5%	173	9.6%	245	8.4%
	Non-Hispanic	659	59.5%	1,006	55.6%	1,666	57.0%
	Unknown	376	34.0%	631	34.9%	1,010	34.6%

Table 2.9: Newly Reported Hepatitis C Cases, by Age, Race, and Ethnicity, NYS (excl. NYC), 2023

		Persons <40 Years of Age		Persons 40+ Years of Age		Total	
		Number of Cases	Percent of Cases	Number of Cases	Percent of Cases	Number of Cases	Percent of Cases
<i>Race</i>							
	White	773	58.9%	842	52.3%	1,615	55.3%
	Black	95	7.2%	195	12.1%	290	9.9%
	American Indian/Alaskan	11	0.8%	3	0.2%	14	0.5%
	Asian	17	1.3%	29	1.8%	46	1.6%
	Other	136	10.4%	134	8.3%	270	9.2%
	Unknown	280	21.3%	406	25.2%	686	23.5%
<i>Ethnicity</i>							
	Hispanic	118	9.0%	127	7.9%	245	8.4%
	Non-Hispanic	779	59.4%	887	55.1%	1,666	57.0%
	Unknown	415	31.6%	595	37.0%	1,010	34.6%

Notes. Race and ethnicity information is self-reported and is collected through laboratory reporting and case investigation. “Other” represents Other, unspecified race. Information on race and ethnicity is often missing from surveillance case reports. Cases are presented by sex at birth. Gender identity information is not present in this report. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 2.10: Newly Reported Acute Hepatitis C Cases, by Risk Factor, NYS (excl. NYC) 2023

	Yes		No		Unknown		Total
	Number of Cases	Percent	Number of Cases	Percent	Number of Cases	Percent	Number of Cases
Injection drug use	105	50.7%	38	18.4%	64	30.9%	207
Other, non-injection drug use	101	48.8%	35	16.9%	71	34.3%	207
Incarceration	52	25.1%	58	28.0%	97	46.9%	207
Close contact with person who has hepatitis C	40	19.3%	50	24.2%	117	56.5%	207
Treated for a sexually transmitted infection	25	12.1%	82	39.6%	100	48.3%	207
Tattoo or Piercing	20	9.7%	0	0.0%	187	90.3%	207
Diabetic	15	7.2%	117	56.5%	75	36.2%	207
>1 sex partner	13	6.3%	29	14.0%	165	79.7%	207
Underwent hemodialysis	12	5.8%	124	59.9%	71	34.3%	207
Worked in public safety/medical field	9	4.3%	99	47.8%	99	47.8%	207
MSM (Men who has sex with men)	5	3.9%	41	31.8%	83	64.3%	129

Table 2.11: Newly Reported Chronic Hepatitis C Cases, by Risk Factor, NYS (excl. NYC) 2023

	Yes		No		Unknown		Total
	Number of Cases	Percent	Number of Cases	Percent	Number of Cases	Percent	Number of Cases
Injection drug use	587	21.7%	222	8.2%	1,896	70.1%	2,705
Other, non-injection drug use	553	20.4%	206	7.6%	1,946	71.9%	2,705
Ever incarcerated	310	11.5%	284	10.5%	2,111	78.0%	2,705
Close contact with person who has hepatitis C	217	8.0%	180	6.7%	2,308	85.3%	2,705
Treated for a sexually transmitted infection	124	4.6%	332	12.3%	2,249	83.1%	2,705
>1 sex partner	108	4.0%	132	4.9%	2,465	91.1%	2,705
Diabetic	66	2.4%	756	27.9%	1,883	69.6%	2,705
Worked in public safety/medical field	35	1.3%	556	20.6%	2,114	78.2%	2,705
MSM (Men who has sex with men)	27	1.6%	198	11.8%	1,453	86.6%	1,678
Transfusion, transplant, clotting factor recipient*	25	0.9%	558	20.6%	2,122	78.4%	2,705
Underwent hemodialysis	13	0.5%	745	27.5%	1,947	72.0%	2,705

Notes. *Recipient of transfusion and/or transplant before 1992 and/or recipient of clotting factor before 1987. MSM presents cases assigned male sex at birth who have reported having at least 1 male sexual partner. Risk factors for acute cases are collected for the 2 weeks to 6 months prior to illness onset. Risk factors for chronic cases are collected through an individual's lifetime. See *Variable Definitions* on page 5 and *About Data* on page 6 in this report.

Table 3.1 Time Frame and Definitions for the 2022 Laboratory-Based Hepatitis C Virus Clearance Cascade

- Cascade starting point: January 1, 2016, the date when hepatitis C virus RNA negative/“not detected” reporting was fully implemented in New York State.

Step 1—Ever infected. All individuals with any positive/“detected” HCV test (anti-HCV, RNA, detectable genotype, or core antigen) performed from the starting point through the end of the ever-infected period (December 31, 2021). The test performance date is the specimen collection date (or laboratory result date if specimen collection date is not available). All individuals who are known to be living outside the jurisdiction or deceased as of the end of the follow-up period (December 31, 2022) should be excluded entirely from the cascade.

Step 2—Viral testing performed. This category includes all individuals who were ever infected (Step 1):

- *2a - No HCV viral test reported*—All individuals who have no HCV viral test performed by the end of the follow-up period (December 31, 2022).
- *2b - HCV viral test performed*—All individuals who have any HCV viral test performed by the end of the follow-up period (December 31, 2022), regardless of the result.

Step 3—Initial infection status. This category includes all individuals with viral testing performed (Step 2b):

- *3a - Initial HCV infection cured or cleared*—All individuals whose initial HCV viral test result performed during the follow-up period (through December 31, 2022) was “not detected.”
- *3b - Initial HCV infection present*—All individuals whose initial HCV viral test result performed during the follow-up period (through December 31, 2022) was “detected.”

Step 4—Cured or cleared. This category includes all individuals with an initial HCV viral test result “detected” (Step 3b):

- *4a - HCV infection not cured or cleared during the cascade timeframe*—All individuals where no subsequent HCV viral test results were performed or where all subsequent HCV viral test results during the follow-up period (through December 31, 2022) were “detected.”
- *4b - HCV infection cured or cleared during the cascade timeframe*—All individuals where a subsequent HCV viral test result “not detected” was performed during the follow-up period (through December 31, 2022).

Note: The cascade is unable to distinguish between cured (referring to successful treatment response) and cleared (referring to natural, spontaneous clearance).

Note: A patient with a single, detectable HCV RNA result would populate all of the first four Steps—Step 1, Step 2b, Step 3b, and Step 4a .

Step 5—Persistent infection or reinfection.

- *5a - Persistent infection or reinfection*—All individuals where a negative/ “not detected” result (Step 3a) is followed by an HCV viral test result positive/“detected.”
- *5b - Persistent infection or reinfection*—All individuals where a negative/ “not detected” result (Step 4b) is followed by an HCV viral test result positive/“detected.”

Note: The cascade is unable to distinguish among the reasons for persistent infection (e.g., incomplete treatment, treatment failure, viral breakthrough), reinfection, or false positive reports (rare). For simplicity, there is no minimum time period after an HCV viral negative/“not detected” test result (cured or

cleared) and before a subsequent HCV viral positive/“detected” test result occurs to qualify as a persistent infection or reinfection. Regardless of whether these infections represent persistent infections or reinfections, this group represents an important opportunity for linkage to care and treatment.

All individuals known to be living outside the jurisdiction or deceased as of the end of the follow-up period (December 31, 2022) were excluded from the cascade.

Table 3.2: Conditional Percentages of Laboratory-based Hepatitis C Virus Clearance Cascade, NYS (excl. NYC), by Age, Sex, Race, Race, and Ethnicity, 2016-2022

	Ever Infected	Viral Testing		Initial Infection		Cured/Cleared		Persistent infection/ Reinfection	
	Number (1)	Number (2b)	Percent of Previous Column(2b/1)	Number (3b)	Percent of Previous Column(3b/2b)	Number (4b)	Percent of Previous Column (4b/ 3b)	Number (5b)	Percent of Previous Column(5b/4b)
Total Age	101,466	93,242	91.8	51,910	55.6	32,577	62.7	3397	10.4
<20	537	450	83.8	128	28.4	61	47.6	5	8.2
20-29	6,755	6,184	91.5	3,523	56.9	1,969	55.8	300	15.2
30-39	20,314	18,790	92.5	12,514	66.6	7,149	57.1	1,112	15.5
40-49	14,916	13,782	92.4	8,585	62.2	5,108	59.5	693	13.5
50-59	16,408	15,164	92.4	8,167	53.8	5,363	65.6	494	9.2
60-69	27,860	25,667	92.1	12,984	50.5	9,007	69.3	556	6.1
70+	14,598	13,176	90.2	5,990	45.4	3,919	65.4	237	6.0
Sex									
Female	40,856	37,494	91.7	18,421	49.1	11,435	62.0	1,065	9.3
Male	60,430	55,595	92.0	33,403	60.0	21,103	63.1	2,327	11.0
Unknown	180	153	85.0	86	56.2	39	45.3	5	12.8
Race									
Asian	1,396	1,266	90.6	481	37.9	331	68.8	25	7.5
Black/African American	11,960	11,236	93.9	6,584	58.6	4,276	64.9	388	9.0
Multiracial	401	395	98.5	243	61.5	178	73.2	47	26.4
Native American/Alaskan Native	513	472	92.0	311	65.8	190	61.0	18	9.4
Native Hawaiian/Pacific Island	9	9	100.0	3	33.3	1	33.3	0	0.0
White	48,393	44,844	92.6	26,826	59.8	17,011	63.4	1,983	11.6
Other	4,889	4,546	92.9	2,278	50.1	1,344	59.0	170	12.6
UNKNOWN	33,905	30,474	89.8	15,184	49.8	9,246	60.8	766	8.2
Ethnicity									
Hispanic/Latino	8,405	7,904	94.0	4,732	59.8	3,066	64.7	442	14.4
Not Hispanic/Latino	36,062	33,663	93.3	21,506	63.8	13,787	64.1	1,598	11.5
Unknown	56,999	51,675	90.6	25,672	49.6	15,724	61.2	1,357	8.6
Region									
Central/Syracuse	11,668	10,695	91.6	6,867	64.2	4,025	58.6	486	12.0
Finger Lakes/Rochester	9,748	9,186	94.2	5,012	54.5	3,275	65.3	280	8.5
Lower Hudson	9,580	8,726	91.0	3,612	41.3	2,444	67.6	206	8.4
Mid Hudson	9,771	8,909	91.1	4,974	55.8	3,266	65.6	360	11.0
NY Penn/Binghamton	2,851	2,668	93.5	1,745	65.4	1,025	58.7	94	9.1
Nassau Suffolk	21,903	19,992	91.2	8,408	42.0	5,239	62.3	421	8.0
Northeast/Albany	10,970	10,056	91.6	6,513	64.7	4,082	62.6	362	8.8
Western/Buffalo	14,894	13,195	88.5	8,261	62.6	4,753	57.5	510	10.7

Notes. See Variable Definitions on page 5 and About Data on page 6 in this report.

**Table 3.3: Age-Adjusted Death Rates Due to Hepatitis B, Hepatitis C, and Liver Cancer,
New York State, 1999-2022**

	Hepatitis B		Hepatitis C		Liver Cancer	
	Number of Deaths	Age-Adjusted Death Rate Per 100,000	Number of Deaths	Age-Adjusted Death Rate Per 100,000	Number of Deaths	Age-Adjusted Death Rate Per 100,000
1999	174	0.9	616	3.3	1,007	5.3
2000	176	0.9	663	3.5	1,031	5.3
2001	181	0.9	767	3.9	1,043	5.3
2002	186	0.9	874	4.4	1,127	5.7
2003	142	0.7	782	3.9	1,045	5.2
2004	142	0.7	778	3.8	1,178	5.8
2005	139	0.7	827	4	1,193	5.8
2006	144	0.7	889	4.2	1,244	6
2007	134	0.6	939	4.4	1,271	6
2008	150	0.7	951	4.3	1,361	6.4
2009	124	0.6	992	4.4	1,390	6.4
2010	167	0.8	977	4.3	1,403	6.4
2011	165	0.7	1,105	4.7	1,462	6.5
2012	143	0.7	1,118	4.7	1,575	6.9
2013	179	0.8	1,139	4.7	1,584	6.8
2014	147	0.6	1,092	4.4	1,569	6.6
2015	115	0.5	979	3.9	1,634	6.8
2016	138	0.6	789	3.1	1,683	6.9
2017	123	0.5	701	2.7	1,590	6.4
2018	115	0.5	615	2.4	1,561	6.1
2019	113	0.5	556	2.1	1,585	6.2
2020	125	0.5	567	2.1	1,565	6
2021	124	0.5	535	2	1,602	6.1
2022	123	0.5	487	1.7	1,615	5.9

Source: CDC Wonder Multiple Causes of Death files
 ICD-10 Codes: Hep.B (B16.0-B16.2, B19.9, B17.0, B18.0, B18.1) Hep.C (B.17.1, B18.2)
 Liver Cancer (C22)