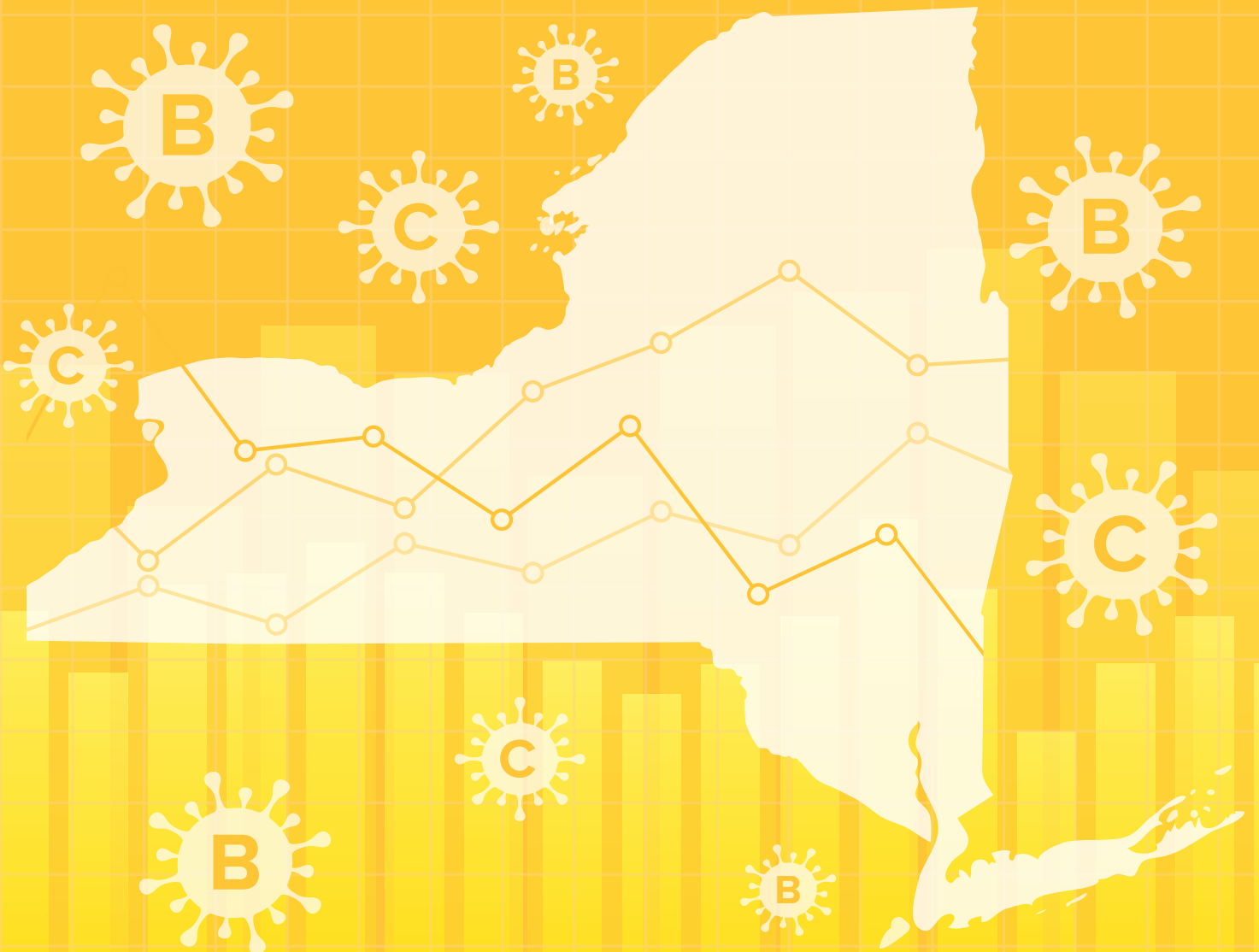


New York State Department of Health

Hepatitis B and C

ANNUAL REPORT 2021



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

TABLE OF CONTENTS

Background	Page 6
Technical Notes	Page 7
About Data in this Report	Page 9
Report Highlights: Hepatitis B Surveillance	Page 10
Report Highlights: Perinatal Hepatitis B Prevention Program	Page 11
Report Highlights: Hepatitis C Surveillance	Page 12
Report Highlights: Hepatitis C Initiatives and Special Studies	Page 13
 Hepatitis B Surveillance Data	
Infographic 1: Hepatitis B, Newly Reported Cases, by Sex, and Age, NYS excl. NYC, 2021	Page 15
Infographic 2: Hepatitis B, Newly Reported Cases by Region and Year, NYS excl. NYC, 2021	Page 16
Infographic 3: Hepatitis B, Newly Reported Cases and Rates by County NYS excl. NYC, 2021	Page 17
Infographic 4: Hepatitis B, Acute and Chronic Cases by Year, NYS excl. NYC, 2012- 2021	Page 18
Infographic 5: Hepatitis B, Newly Reported Cases by Sex, Race and Ethnicity, NYS excl. NYC, 2021	Page 19
Infographic 6: Hepatitis B, Newly Reported Acute Cases, Risk Factors, NYS excl. NYC, 2021	Page 20
Infographic 7: Hepatitis B, Newly Reported Chronic Cases, Risk Factors, NYS excl. NYC, 2021	Page 21
Infographic 8: Hepatitis B, Newly Reported in Females and Females of Reproductive Age, NYS excl. NYC, 2012-2021	Page 22
 Additional Data	
Perinatal Hepatitis B Prevention Program	Page 23 - 24

Hepatitis C Surveillance Data

Infographic 9: Hepatitis C, Newly Reported Cases, by Sex, and Age, NYS excl. NYC, 2021	Page 26
Infographic 10: Hepatitis C, Newly Reported Cases by Region and Year, NYS excl. NYC, 2021	Page 27
Infographic 11: Hepatitis C, Newly Reported Cases and Rates by County NYS excl. NYC, 2021	Page 28
Infographic 12: Hepatitis C, Acute and Chronic Cases by Year, NYS excl. NYC, 2012- 2021	Page 29
Infographic 13: Hepatitis C, Newly Reported Cases by Sex, Race and Ethnicity, NYS excl. NYC, 2021	Page 30
Infographic 14: Hepatitis C, Newly Reported Acute Cases, Risk Factors, NYS excl. NYC, 2021	Page 31
Infographic 15: Hepatitis C, Newly Reported Chronic Cases, Risk Factors, NYS excl. NYC, 2021	Page 32
Infographic 16: Hepatitis C, Newly Reported Cases in Females and Females of Reproductive Age, NYS, 2012-2021	Page 33
Infographic 17: Hepatitis C Newly Reported Cases Among Selected Birth Cohorts, NYS excl. NYC, 2012-2021	Page 34

Additional Data

HIV and HCV seroprevalence study among incarcerated persons entering the NYS Department of Corrections and Community Supervision	Page 35 -38
Behavioral Risk Factor Surveillance System (BRFSS) in New York State	Page 39 - 40

Data Appendix 1: Hepatitis B Surveillance Data

Table 1.1: Hepatitis B, Newly Reported Cases, by Sex, Age and Region NYS excl. NYC, 2021	Page 42
Table 1.2: Hepatitis B, Newly Reported Cases, by Race, and by Ethnicity NYS excl. NYC, 2021	Page 43

Table 1.3: Hepatitis B, Newly Reported Cases and Rates per 100,000 pop., by Sex, NYS excl. NYC, 2012 - 2021	Page 44
Table 1.4: Hepatitis B, Newly Reported Acute and Chronic Cases and Rates per 100,000 pop., NYS excl. NYC, 2012 - 2021	Page 44
Table 1.5: Hepatitis B, Newly Reported Cases and Rates per 100,000 pop. by Region NYS excl. NYC, 2012 - 2021	Page 45
Table 1.6: Hepatitis B, Newly Reported Cases and Rates per 100,000 pop. NYS excl. NYC, 2021	Page 46
Table 1.7: Hepatitis B, Newly Reported Cases in Females and Females of Reproductive Age, NYS excl. NYC, 2012 - 2021	Page 47
Table 1.8a: Hepatitis B, Hepatitis B, Newly Reported Acute Cases, by Risk Factor, NYS excl. NYC, 2021	Page 48
Table 1.8b: Hepatitis B, Hepatitis B, Newly Reported Chronic Cases, by Risk Factor, NYS excl. NYC, 2021	Page 48

Data Appendix 2: Hepatitis C Surveillance Data

Table 2.1: Hepatitis C, Newly Reported Cases, by Sex, Age, and Region NYS excl. NYC, 2021	Page 49
Table 2.2: Hepatitis C, Newly Reported Cases, by Race, and by Ethnicity NYS excl. NYC, 2021	Page 50
Table 2.3: Hepatitis C, Newly Reported Cases and Rates per 100,000 pop., by Sex, NYS excl. NYC, 2012 - 2021	Page 51
Table 2.4: Hepatitis C, Newly Reported Acute and Chronic Cases and Rates per 100,000 pop., NYS excl. NYC, 2021	Page 51
Table 2.5: Hepatitis C, Newly Reported Cases and Rates per 100,000 pop. by Region NYS excl. NYC, 2012 - 2021	Page 52
Table 2.6: Hepatitis C, Newly Reported Cases, by County, NYS excl. NYC, 2021	Page 53
Table 2.7a: Hepatitis C, Newly Reported Acute Cases, by Risk Factor, NYS excl. NYC, 2012 - 2021	Page 54

Table 2.7b: Hepatitis C, Newly Reported Chronic Cases, by Risk Factor, NYS excl. NYC, 2012 - 2021	Page 54
Table 2.8: Hepatitis C, Newly Reported Cases in Females and Females of Reproductive Age, NYS excl. NYC, 2012-2021	Page 55
Table 2.9: Hepatitis C, Newly Reported Cases in Persons under 40 years of Age and Persons born between 1945-1965, NYS excl. NYC, 2012-2021	Page 55

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](#) 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 and C viruses are both blood-borne pathogens.

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 mother to her newborn 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, 25-50% of children infected at age 1-5, and 5% of persons infected as adults will become chronically infected. Infants born to infected mothers 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 and anyone else at risk 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 her newborn. 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 or 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 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 or the results of liver enzyme assays (e.g., alanine aminotransferase (ALT)). 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 2021 are:

Acute hepatitis B	https://ndc.services.cdc.gov/case-definitions/hepatitis-b-acute-2012
Chronic hepatitis B	https://wwwn.cdc.gov/nndss/conditions/hepatitis-b-chronic/case-definition/2012
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://wwwn.cdc.gov/nndss/conditions/hepatitis-c-perinatal-infection/case-definition/2018/

Under case definitions utilized in 2021, 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.

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.

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 2020-2021 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 and is known for >99% of cases. Surveillance data collection forms allow for the collection of gender identity and sexual orientation information. However, and due to the high volume of reporting, data on case reports of chronic hepatitis is collected through surveillance data collection forms and not investigated with patient or provider interviewing. This makes data on sexual orientation rarely available, with above 95% missing data.

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 to 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 2012-2021. Estimates used for the resident population by county are annual estimates from US Census Bureau, (Population Division) for the resident population for selected age groups by sex for the United States, states, counties, and Puerto Rico Commonwealth.

Risk Factor Information

Risk factor information is collected by LHDs during 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.

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) at: [\[Link to NYC report will be included when NYC DOHMH publishes its report\]](#)

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 2021. Trend data are also presented for cases reported during 2012 through 2021. Surveillance data for hepatitis B and hepatitis C are current as of July 2022. All surveillance data should be considered preliminary and subject to change. During 2022, the Bureau of Hepatitis Health Care and Epidemiology conducted intense data quality activities to increase the accuracy of case ascertainment utilizing all information available in NYSDOH electronic surveillance system (ECLRS and CDESS). This resulted in an overall decrease in the counts of newly reported cases between 2017-2019, compared to case counts reported in prior published Hepatitis Annual Reports.

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 2021, 1,809 cases of hepatitis B were newly reported to the NYSDOH. In 2021, there was a 4% decrease in newly reported acute hepatitis B cases (24 cases), compared to 2020; and a 17% increase in chronic hepatitis B cases (1,785 cases) compared to 2020 chronic hepatitis B cases. There were no new perinatal hepatitis B cases reported in 2021.
- The largest number of newly reported cases of hepatitis B was among males (1,011 cases) and persons aged 35 – 39 (236 cases).¹
- Cases in persons able to become pregnant, aged 15-44 (reproductive age) accounted for 50% of all cases in females
- When analyzing race and ethnicity, 22% of newly reported cases were in Asian/ Pacific Islander persons, and 23% in non-Hispanic persons. When excluding those cases with unknown race and ethnicity the proportion of cases among Asian/ Pacific Islander persons increases to 37% and the proportion of cases among non-Hispanic increases to 87%.
- In 2021, Nassau and Suffolk counties had the highest number of newly reported cases of hepatitis B, with 473 and 240 cases respectively. Westchester, Erie, Monroe, and Rockland counties also reported a high number of cases 235, 163, 79 and 64 respectively. In 2021 Hamilton and Nassau counties recorded the highest case rates per 100,000 population. Hamilton had a rate of 39.4 per 100,000 pop. while Nassau had a rate of 33.9. Westchester, Putnam, Rockland, and Oneida counties had high case rates 23.4, 19.5, 18.9 and 18.1 per 100,000 pop. It is important to note that Hamilton County had only 2 newly reported cases of hepatitis B. Rates per 100,000 pop. for single digit case counts, should be interpreted with caution.
- For both newly reported cases of acute and chronic hepatitis B, the most common reporting risk factor was the lack of hepatitis B vaccination. Twenty-nine percent of all newly reported acute cases of hepatitis B had no history of hepatitis B vaccination, and 9% of all newly reported chronic cases of hepatitis B had no history of vaccination. It is important to note that risk factor information is missing in approximately 87% of all cases due to the high volume of new reports and how staff intensive case investigation is.

¹ Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definition on page 9

REPORT HIGHLIGHTS: PERINATAL HEPATITIS B PREVENTION PROGRAM

- The program enrolled 221 infants in 2020. Nearly all infants (97%) received timely post-exposure prophylaxis; 95% completed the hepatitis B vaccine series by 12 months of age, and 79% completed post-vaccination serologic testing by December 31, 2021.
- The 2021 hepatitis B vaccine birth dose rate for NYS hospitals (outside of NYC) is 83%. Rates, since 2012, are posted on Health Data NY.
- In the 57 counties outside NYC, NYSDOH implements a Perinatal Hepatitis B Prevention Program (PHBPP) consistent with CDC guidance and NYSDOH laws and regulations.

REPORT HIGHLIGHTS: HEPATITIS C SURVEILLANCE

- During 2021, 4,249 cases of hepatitis C were reported to the NYSDOH, including 8 perinatal, 168 acute, and 4,073 newly reported chronic cases. Chronic cases accounted for 96% of all newly reported cases, and acute cases for 4%. Perinatal reports accounted for less than 1% of all reports. Newly reported chronic cases increased by 3% while newly reported acute cases, which represent a recent infection, decreased by 7% compared to 2020.
- Case rates were highest in males¹ (2,633) and in persons 30-34 years of age (647). Among males, more than 60% of all newly reported cases were in men under 40 years of age.
- Although historically, the highest proportion of newly reported cases used to be among Baby Boomers (persons born between 1945-1965) in 2021, Baby Boomers represent only 26% of all newly reported cases while cases reported in persons under the age of 40 represent 49% nearly twice as many.
- Where race was reported, 75% of cases in males and 74% of cases in females were in White persons. Where ethnicity was reported, 89% of cases in males and 94% of cases in females were in non-Hispanic persons.
- Cases in persons able to become pregnant, aged 15-44 (reproductive age) accounted for 59% of all cases in females. Although this proportion declined from 2020 to 2021, the percent of those persons able to become pregnant who were in their reproductive years has steadily increased by 16 percent points from 43% to 59% between 2012 and 2021.
- In 2021, highest number of reported cases were in Suffolk and Erie counties, with 374 and 368 cases. Onondaga, Nassau, Westchester, Orange, Monroe also reported high numbers of cases: 276, 231, 216, 181, 171, respectively. The largest rates per 100,000 population were in Cayuga and Chautauqua counties, with 92.0 and 87.1 per 100,000 population. Essex, Ulster, Montgomery, Sullivan, and Oswego had case rates per 100,000 population that exceeded 70.0 per 100,00 population.
- The most common risk factors among both acute and chronic hepatitis C cases in 2021 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.
- Case count comparisons across years should be done with caution as recent trends in cases are difficult to discern for several reasons. In 2014, the NYS Hepatitis C Testing Law was implemented resulting in an increase in case reporting, especially in Baby Boomers. The case definition for hepatitis C acute and chronic was modified in 2016 and in 2020 generating challenges when comparing case counts across years. Due to changes in surveillance case, definition caution should be exercised when comparing numbers of cases of hepatitis C reported during 2016-2019 to cases reported during 2012-2015.

¹ Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definition on page 8.

REPORT HIGHLIGHTS: HEPATITIS C INITIATIVES AND SPECIAL STUDIES

- The HIV and HCV Seroprevalence Study Among Incarcerated Persons Entering the NYS DOCCS showed that hepatitis C antibody seroprevalence among females was 29.7% in 2019, up from 26.2% in 2017. Hepatitis C antibody seroprevalence was highest among females and non-Hispanic White persons. Hepatitis C RNA seroprevalence was 44.0% and was highest among males and non-Hispanic White persons.
- Based on Behavioral Risk Factor Surveillance System (BRFSS) data collected from 2019 through 2021, 26.4% of adults in NYS reported ever being tested for hepatitis C. Testing was more common among non-Hispanic Black persons, males, and adults with Medicaid coverage. Overall, 1.2% of adults reported being told that they had hepatitis C. Baby Boomers (born from 1945-1965) were four times as likely to report being told they had hepatitis C than younger adults.

Hepatitis B
Surveillance and
Program Data

Infographic 1: Hepatitis B, Newly Reported Cases, by Sex and Age, NYS excl. NYC, 2021

1,809

Newly reported cases of hepatitis B

15.9

Per 100,000 pop.

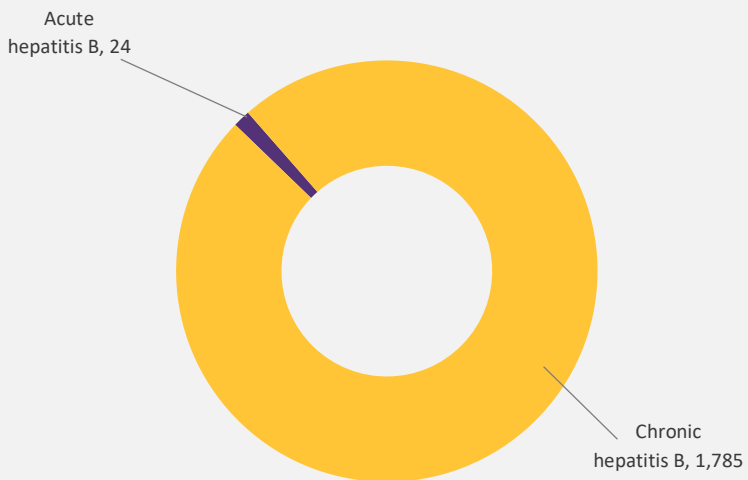
16.9% ↑

Newly reported cases of chronic hepatitis B increased by 16.9% between 2020 and 2021

4% ↓

Newly reported cases of acute hepatitis B decreased by 4% between 2020 and 2021

Figure 1.1: Hepatitis B, Newly Reported Acute and Chronic Cases, NYS, 2021

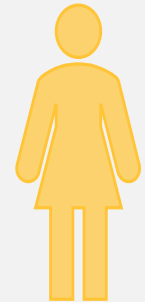


55.9% of newly reported cases were reported in males (1,011) and 44% of newly reported cases were reported in females (796).



1,011

Newly reported cases of hepatitis B in males

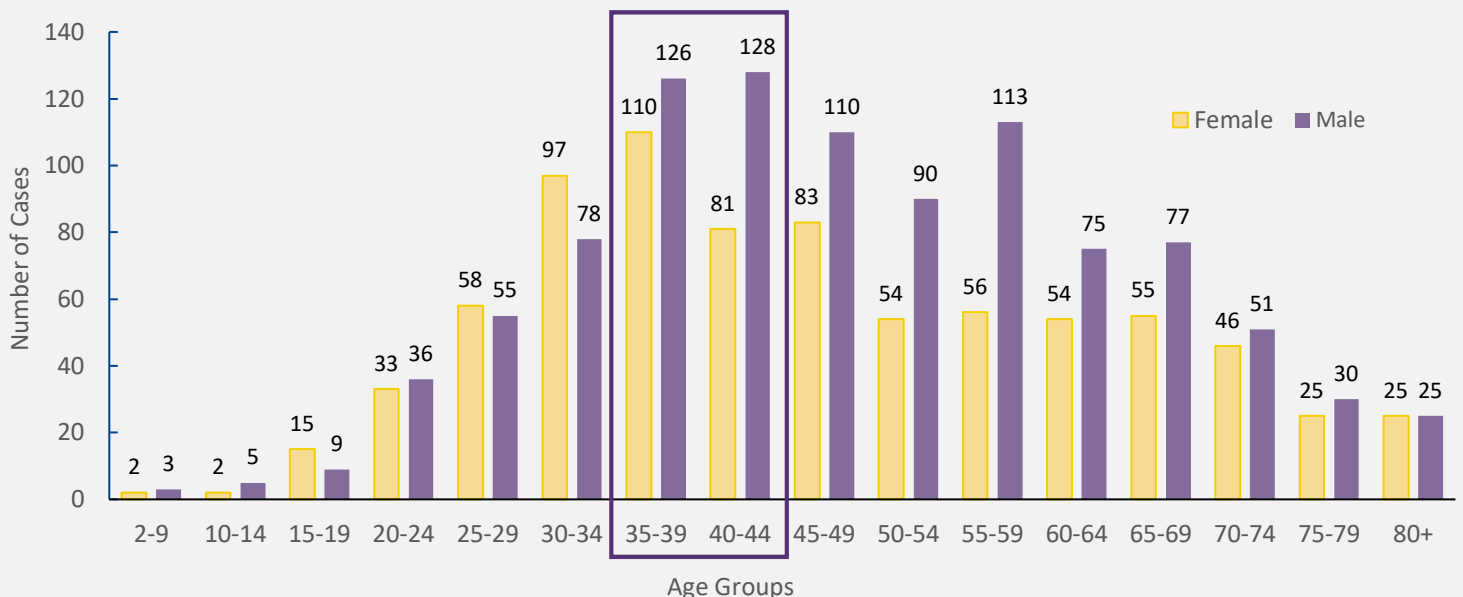


796

Newly reported cases of hepatitis B in females

In 2021, newly reported cases of hepatitis B were higher in males aged 40-44 (128), and higher in females aged 35-39 (110). The 35-39 age group had the largest number of newly reported cases of hepatitis B (236).

Figure 1.2: Hepatitis B, Newly Reported Cases by Sex and by Age, NYS 2021



Notes. Total case counts include 2 cases where sex is unknown. Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definitions and About Data on this Report on page 8-9. See Table 1.1 in the Data Appendix for additional information.

Infographic 2. Hepatitis B, Newly Reported Cases and Rates by Region and Year, NYS excl. NYC, 2021

Figure 2.1: Hepatitis B, Newly Reported Cases and Rates per 100,000 pop. by NYS Region, 2021

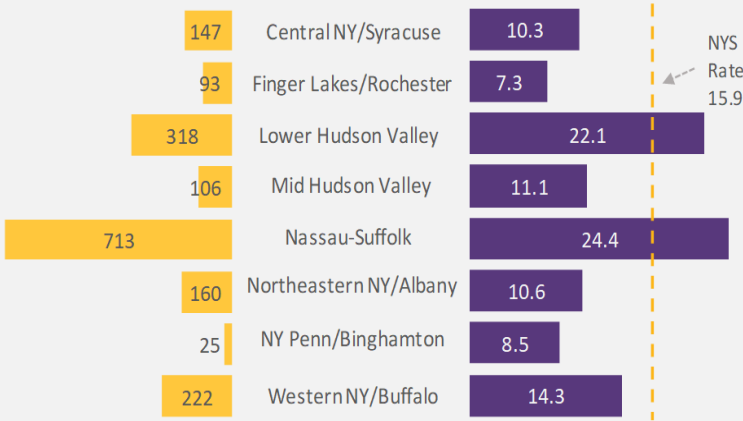
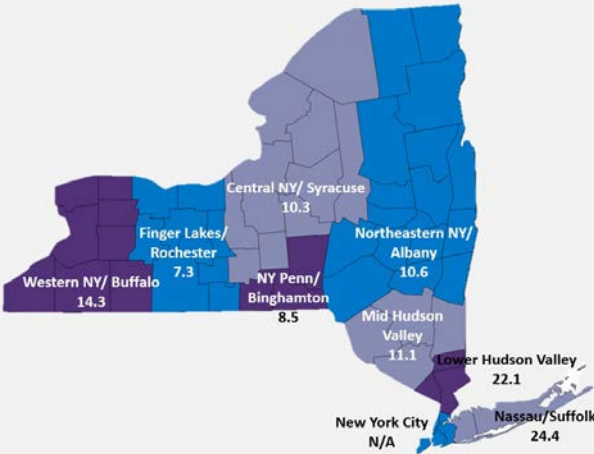
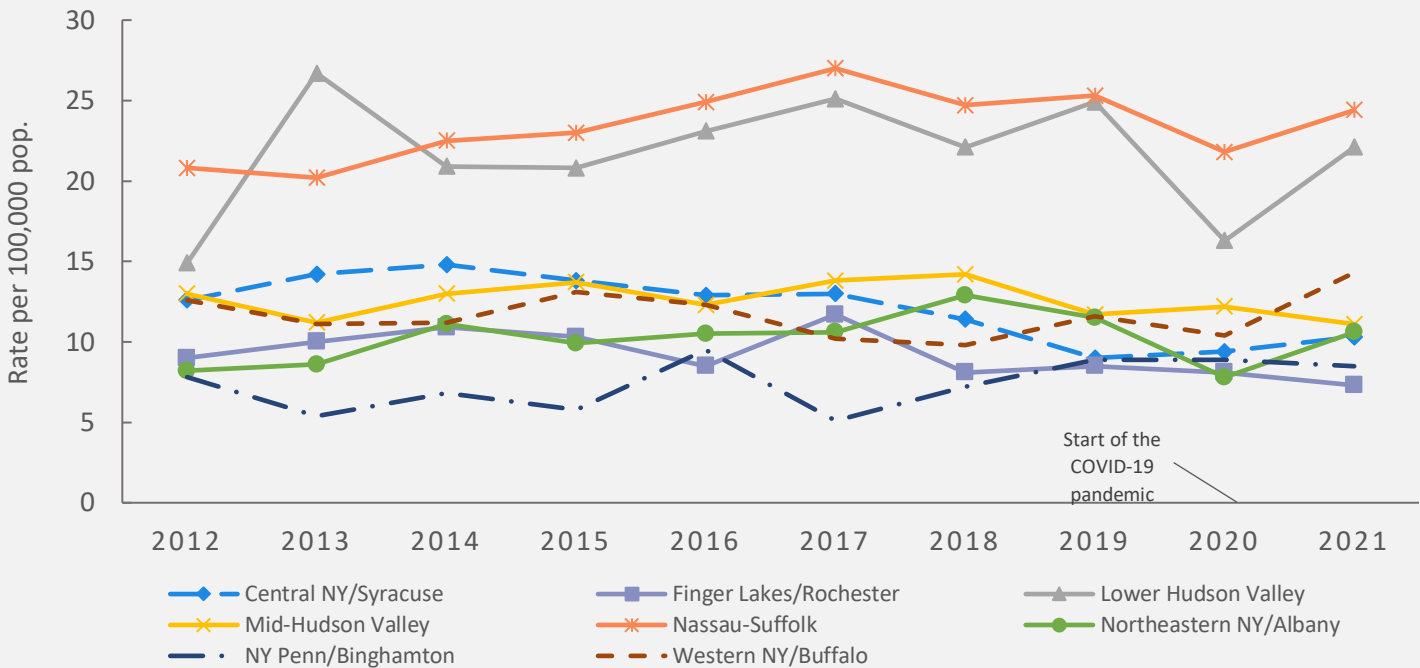


Figure 2.2: Hepatitis B, Newly Reported Cases, Rate per 100,000 pop. by Region, 2021



In 2021, the Nassau/Suffolk Region had the highest number of newly reported cases of hepatitis B (713), followed by the Lower Hudson Valley Region (318). Case rates per 100,000 pop. for the Nassau/Suffolk and Lower Hudson Valley regions were above the NYS rate per 100,000 pop. (15.9) with 24.4/100,000 and 22.1/100,000 respectively.

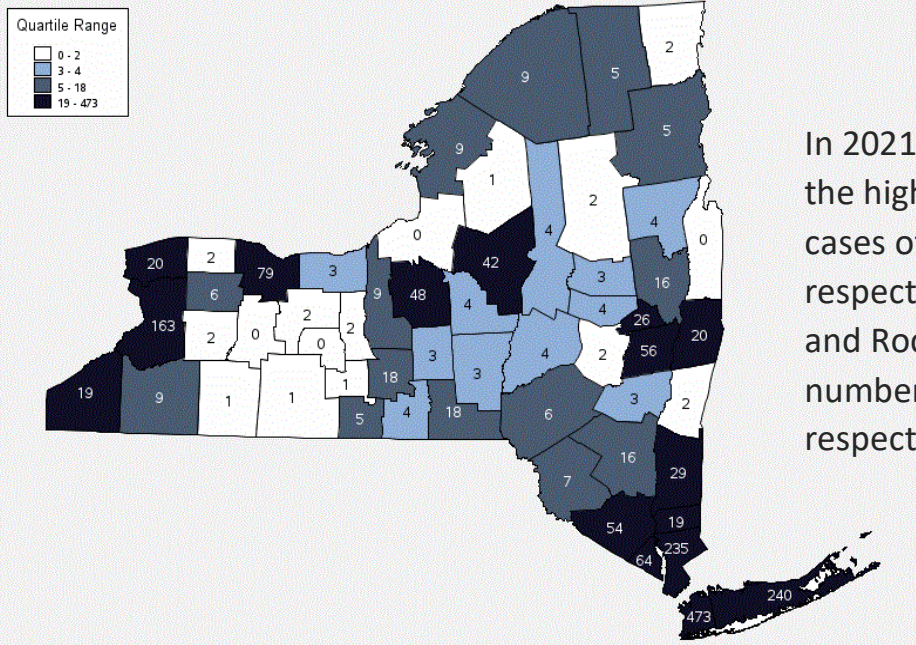
Figure 2.3: Newly Reported Cases, Rate per 100,000 pop. by NYS Region, 2012-2021



Notes. Counts represent newly reported cases in NYS outside of NYC. Regional case counts exclude cases in persons incarcerated in the Department of Corrections and Community Supervision (DOCCS). Rates are calculated per 100,000 pop. based on 2020 US Census Data. See About Data in this Report on page 9. See table 1.1, 1.3, 1.5 in the Data Appendix.

Infographic 3. Hepatitis B, Newly Reported Cases and Rates, by County, NYS excl. NYC, 2021

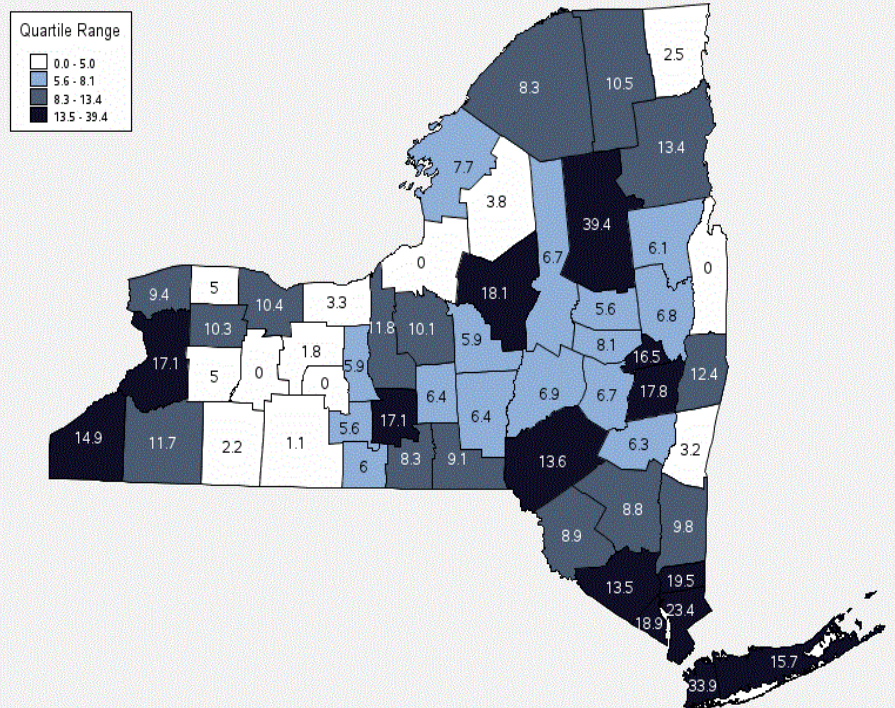
Figure 3.1: Hepatitis B, Newly Reported Cases NYS excl. NYC, 2021



In 2021, Nassau and Suffolk counties had the highest number of newly reported cases of hepatitis B, 473 and 240 cases respectively. Westchester, Erie, Monroe, and Rockland counties reported a high number of cases 235, 163, 79 and 64 respectively.

Figure 3.2: Hepatitis B, Newly Reported Cases, Rate per 100,000 pop., NYS excl. NYC, 2021

In 2021, Hamilton and Nassau counties recorded the highest case rates per 100,000 population. Hamilton had a rate of 39.4 per 100,000 pop. while Nassau had a rate of 33.9. Westchester, Putnam, Rockland, and Oneida counties had high case rates 23.4, 19.5, 18.9 and 18.1 per 100,000 pop. respectively.

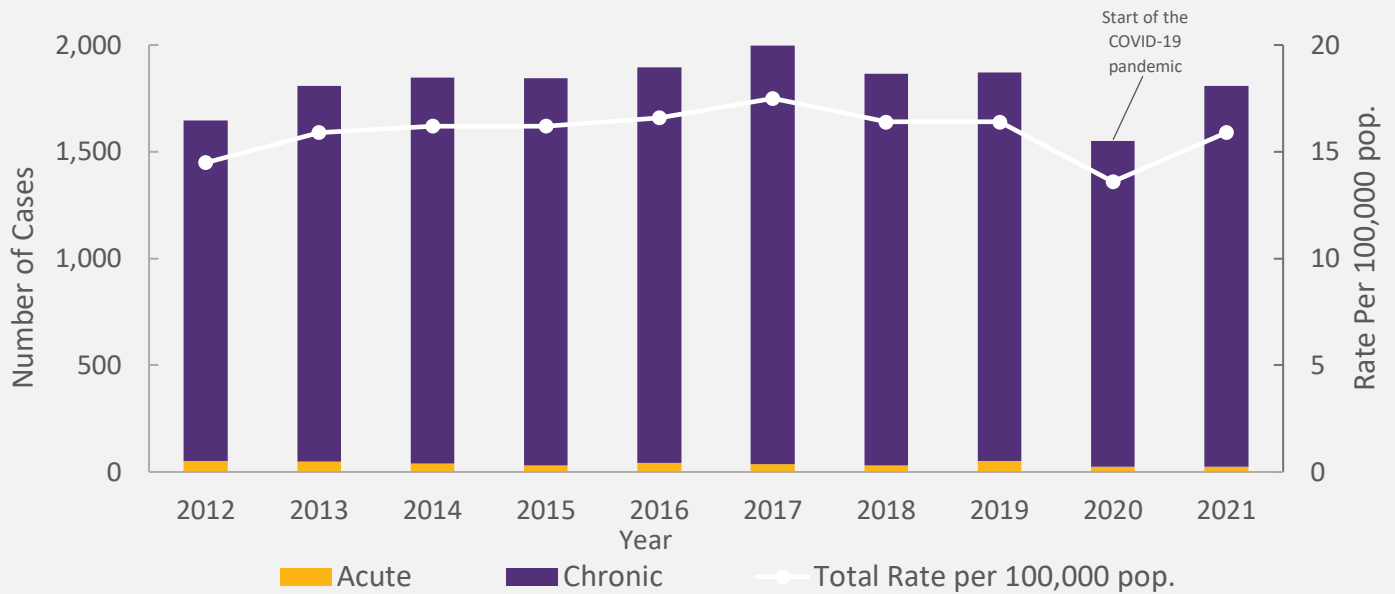


Notes. Counts represent newly reported cases in NYS outside of NYC. Regional case counts at the county level exclude cases in persons incarcerated in the Department of Corrections and Community Supervision (DOCCS). Case rates per 100,000 pop. are calculated based on 2020 US Census data. See About Data in this Report on page 9. See Table 1.6 in the Data Appendix. Note that Hamilton County had only 2 newly reported cases of hepatitis B. Rates per 100,000 pop. for single digit case counts, should be interpreted with caution.

Infographic 4. Hepatitis B, Acute and Chronic Cases, by Year, NYS excl. NYC, 2012-2021

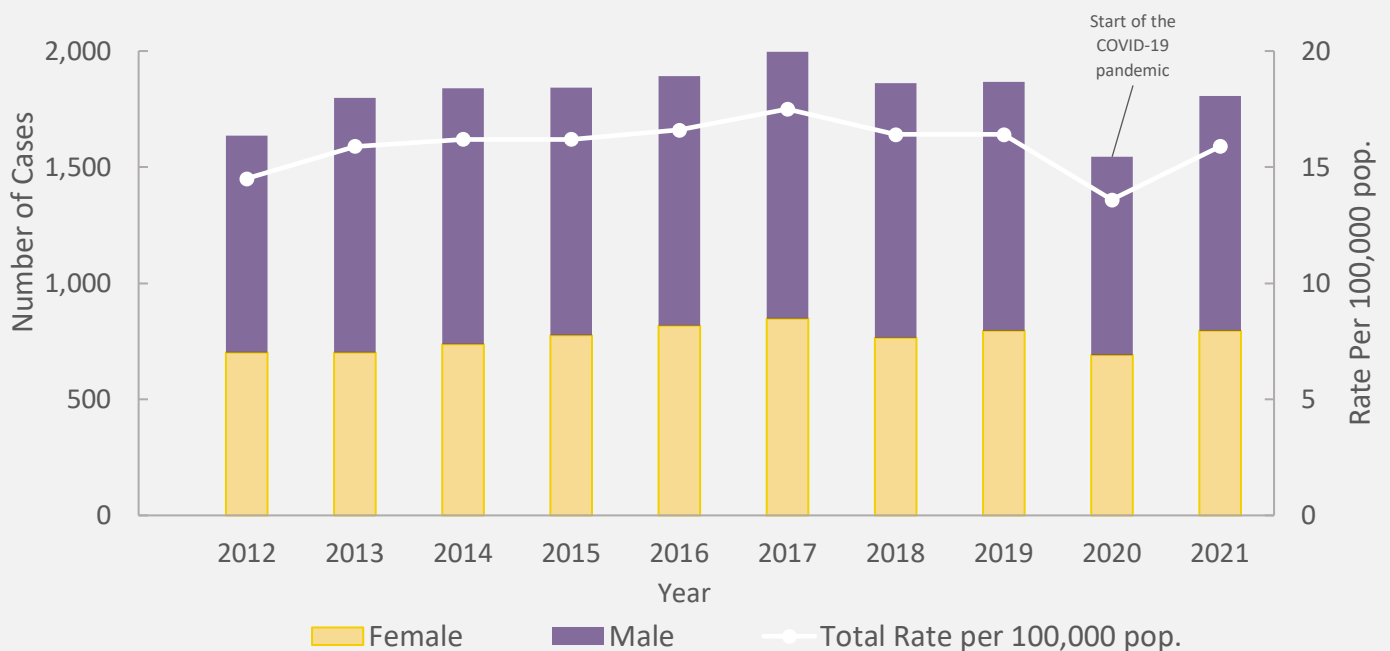
During 2012-2021, the number of newly reported chronic hepatitis B cases peaked in 2017 with 1,959 cases. In 2020, there was a slight decrease in newly reported cases (1,527). By 2021, newly reported cases increased to match historical trends (1,785).

Figure 4.1: Hepatitis B, Newly Reported Acute and Chronic Cases by Year, NYS excl. NYC, 2012-2021



Newly reported hepatitis B cases were consistently higher in males during 2012-2021. Newly reported cases in females have maintain relatively stable between 2012-2021.

Figure 4.2: Hepatitis B, Newly Reported Cases and Rate by Sex, by Year, NYS excl. NYC, 2012-2021

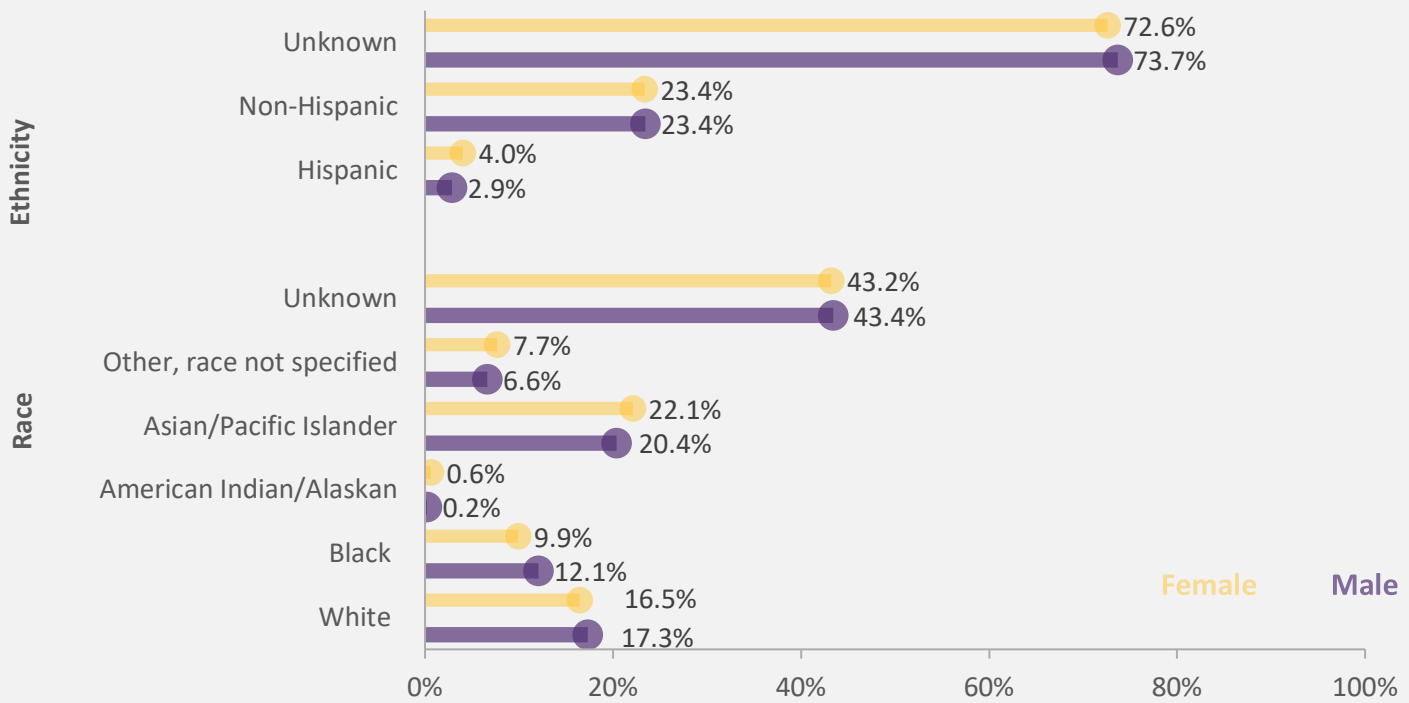


Notes Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definition on page 8 for additional information. Hepatitis B case definition has remained unchanged since 2012. Rates per 100,000 pop are based on 2020 US Census data. Additional information Table 1.2, 1.3 in the Data Appendix.

Infographic 5: Hepatitis B, Newly Reported Cases by Sex, Race and Ethnicity, NYS excl. NYC, 2021

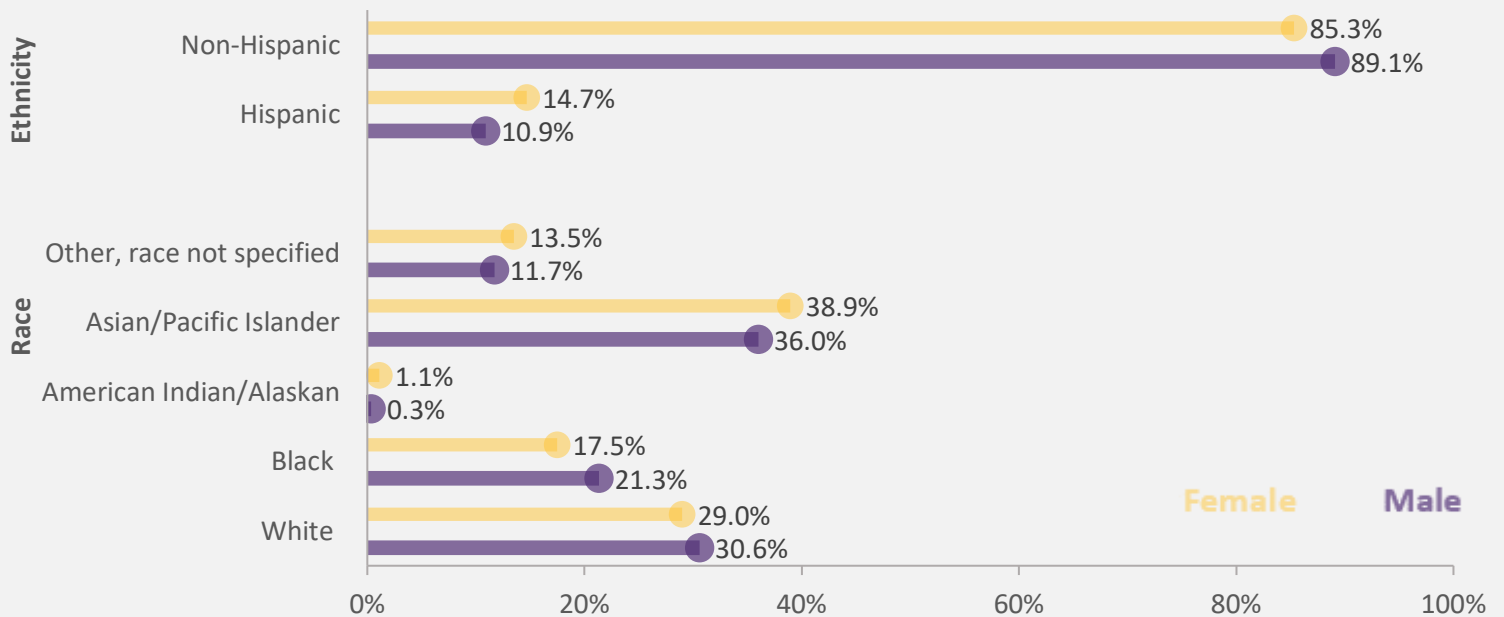
The highest percentage of newly reported cases of hepatitis B cases were among Asian/ Pacific Islander persons, for both females and males.

Figure 5.1: Newly Reported Cases of Hepatitis B by Sex, Race, and Ethnicity, NYS excl. NYC, 2021



When excluding cases with unknown ethnicity, the largest proportion of newly reported case of hepatitis B were among non-Hispanic persons, for females and males.

Figure 5.2: Newly Reported Cases of Hepatitis B by Sex, Race and Ethnicity, NYS excl. NYC, 2021 Excluding Cases with Unknown Race and Ethnicity



Note: Race data is missing for 33.3% of all acute cases and for 43.5% of all hepatitis B chronic cases. Ethnicity data is missing for 45.8% of all hepatitis B acute cases and for 73.6% of all hepatitis B chronic cases. Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definition on page 8. See Table 1.2 in the Data Appendix. 19

Infographic 6. Hepatitis B, Newly Reported Cases, Acute Risk Factors, NYS excl. NYC, 2021



In 2021, 28.6% of newly reported case of acute hepatitis B were in persons who injected drugs not prescribed by their doctors.

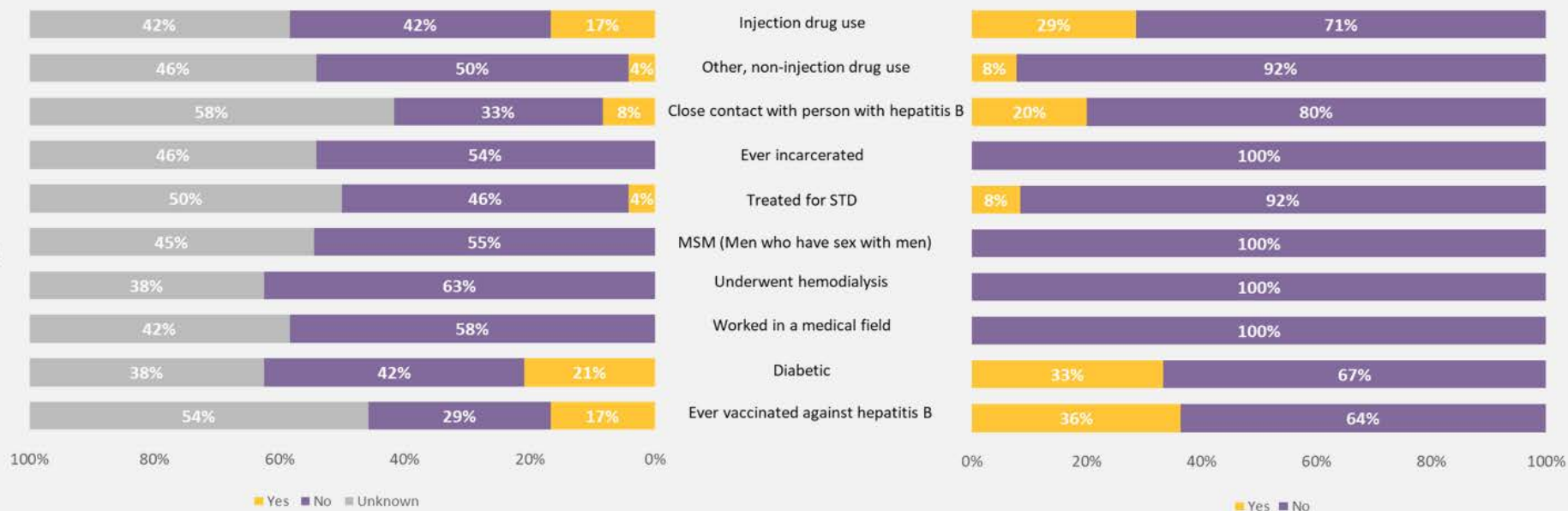


In 2021, 33.3% of newly reported cases of acute hepatitis B cases were in persons with a known history of diabetes.



In 2021, 63.6% of newly reported cases of acute hepatitis B were in persons with no history of hepatitis B vaccination.

Figure 6.1 Hepatitis B, Newly Reported Cases, Acute Risk Factor Information, NYS excl. NYC, 2021



Note: Risk factor data is missing, in average for 46% of newly reported acute cases. Categories are not mutually exclusive. See Variable Definition and About Data in this Report for additional information on page 8-9. See Tables 1.8a and 1.8b in the Data Appendix.

Infographic 7: Hepatitis B, Newly Reported Chronic Cases, Risk Factors, NYS excl. NYC, 2021



In 2021, 12% of newly reported cases of chronic hepatitis B were with a known history of diabetes.

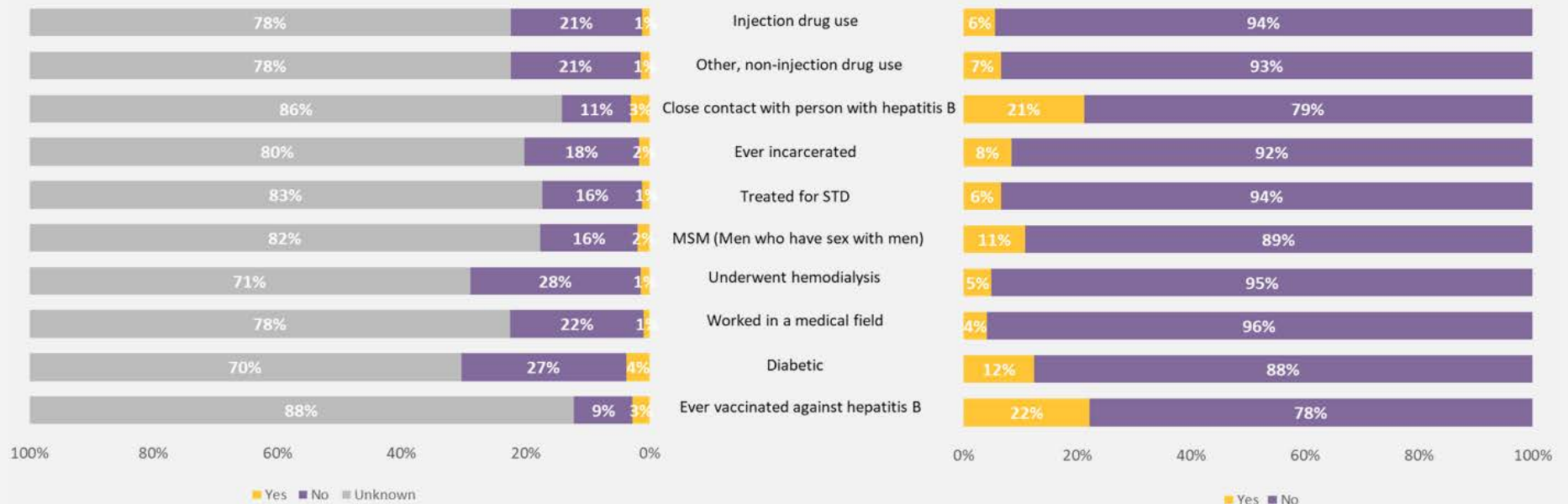


In 2021, 21% of newly reported cases of chronic hepatitis B were in persons who had close contact with a person diagnosed with hepatitis B.



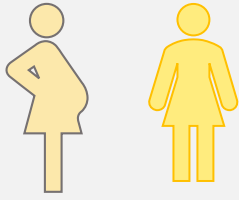
In 2021, 78% of newly reported cases of chronic hepatitis B cases were in persons with no history of hepatitis B vaccination.

Figure 7.1 Hepatitis B, Newly Reported Chronic Cases Risk Factors, NYS excl. NYC, 2021



Note: Risk factor data is missing, in average, for 79% of newly reported chronic cases. Categories are not mutually exclusive. See Variable Definition for additional information on page 8. See Table 1.8a and 1.8b in the Data Appendix.

Infographic 8: Hepatitis B, Newly Reported Cases Among Females of Reproductive Age, NYS excl. NYC, 2012-2021



Between 2012-2021, on average females represented 42% of all reported hepatitis B cases. Among those, persons that can become pregnant (aged 15-44 years) constituted, on average, 54% of reported cases.

Figure 8.1 Hepatitis B, Newly Reported Cases by Sex, NYS excl. NYC, 2012-2021

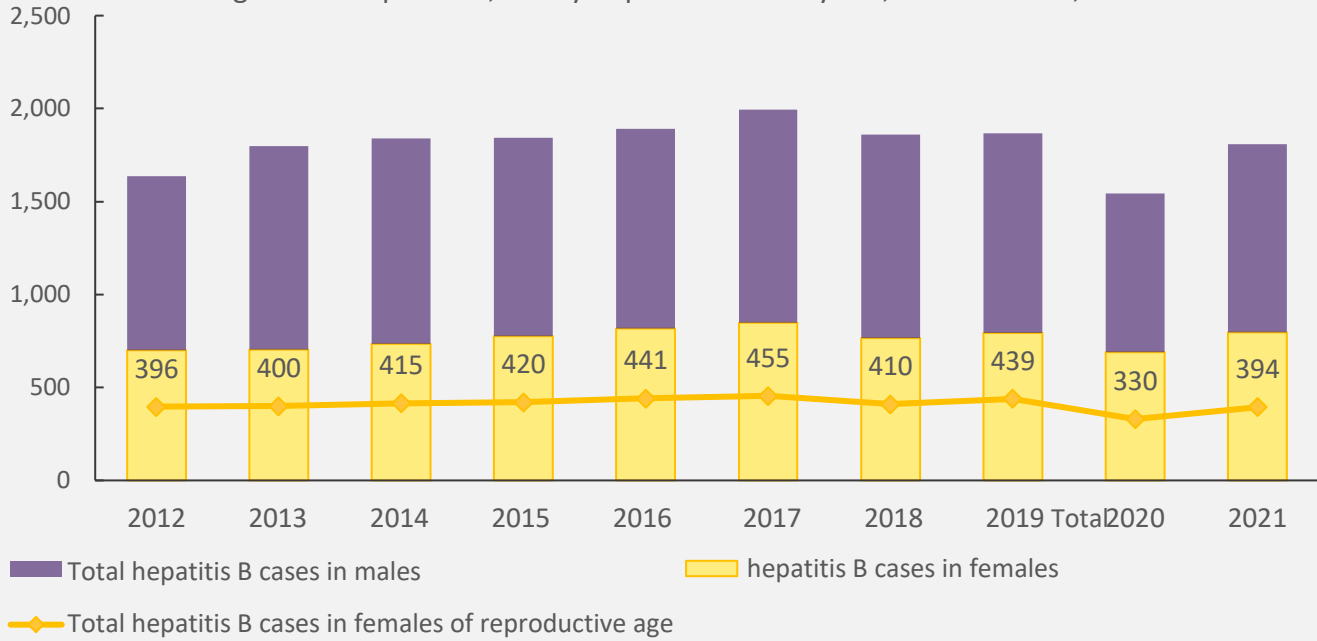
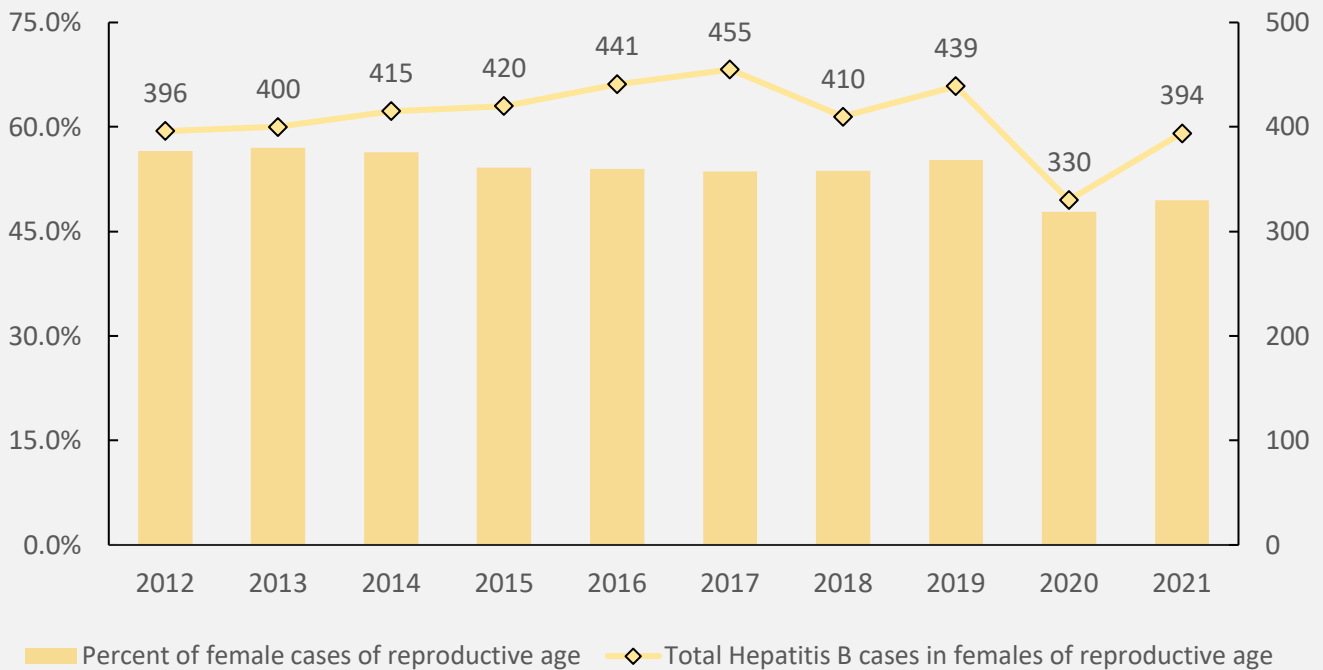


Figure 8.2 Hepatitis B, Cases Among Females of Reproductive Age, NYS excl. NYC, 2012-2021



Notes. Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definition on page 8. Hepatitis B case definition has remained unchanged since 2012. See Table 1.7 in the Data Appendix

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.

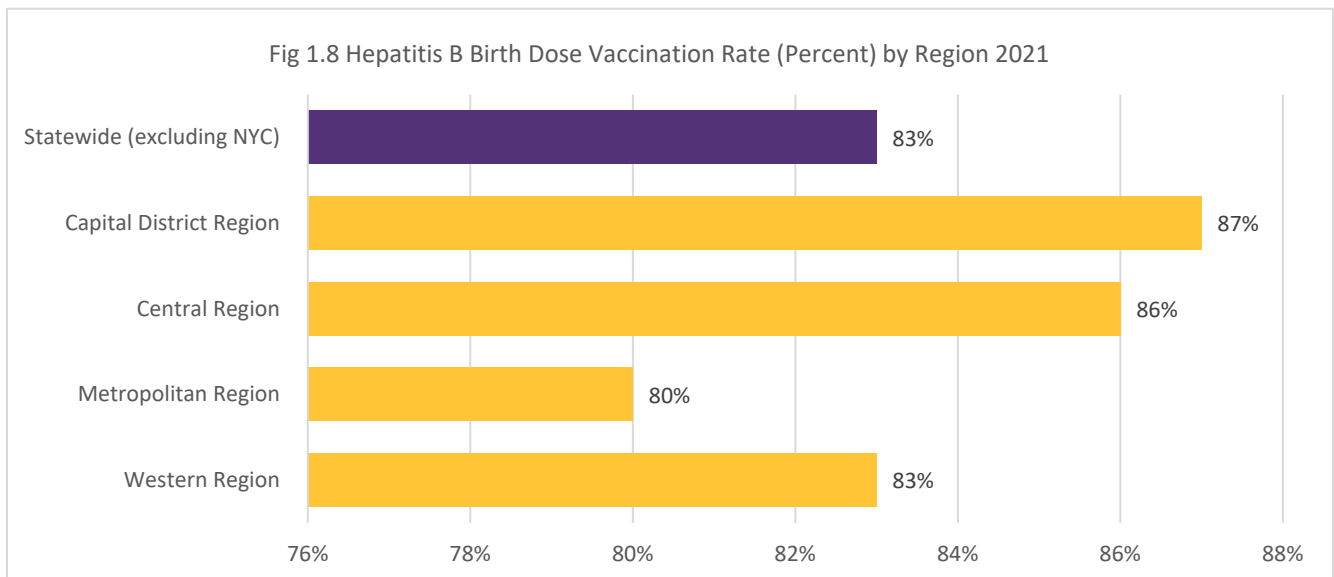
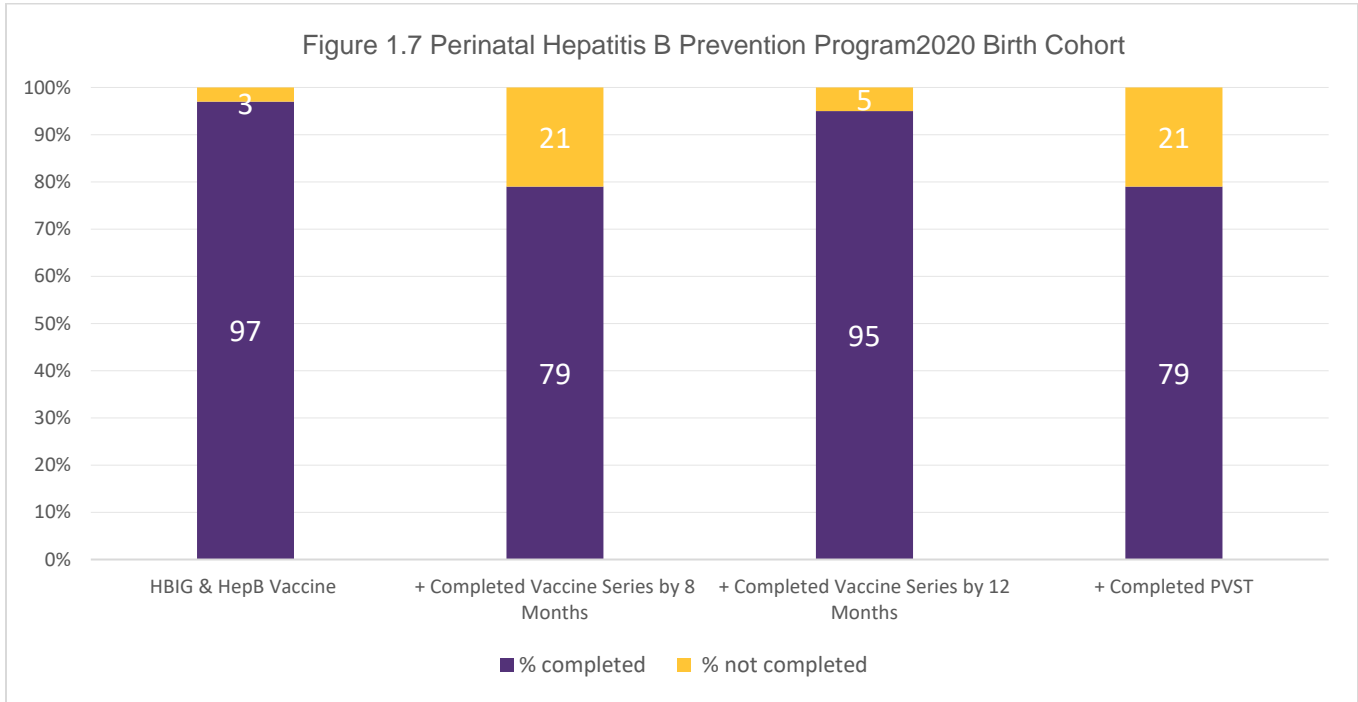
Program Goals are:

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 person 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 post-vaccination 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 2020 (Fig. 1.7):

- 221 infants were enrolled in the PHBPP.
- 215 infants (97%) received hepatitis B vaccine and HBIG within one calendar day of birth.
- 1 infant received hepatitis B vaccine only; 5 infants did not receive hepatitis B vaccine and HBIG within one calendar day of birth.
- 175 infants (79%) received hepatitis B vaccine and HBIG within one calendar day of birth and completed the hepatitis B vaccine series by eight months of age.
- 211 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.
- 174 infants (79%) completed PVST by the end of the reporting period (December 31, 2021).

The overall 2021 birth dose rate for 84 NYS birth hospitals (not including NYC) is 83%. Rates, since 2012, can be viewed on Health Data NY. The percentage of infants who were born at a hospital during 2021 and received a dose of hepatitis B vaccine within three days of birth are represented in Fig. 1.8 by region. Rates range from 87% in the Capital District Region to 80% in the Metropolitan Region. Twenty-seven birth hospitals have a birth dose rate of 90% and above.



**Hepatitis C
Surveillance and
Program Data**

Infographic 9. Hepatitis C, Newly Reported Cases by Sex and Age, NYS excl. NYC, 2021

4,249

Newly reported cases of hepatitis C in 2021

37.3

per 100,000 pop.

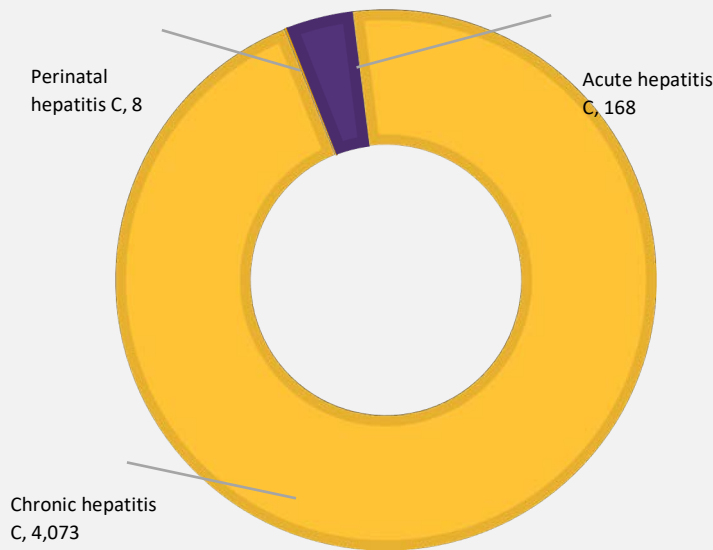
3.4%

Newly reported cases of chronic hepatitis C increased by 3.4% from 2020

7.2%

Newly reported cases of acute hepatitis C decreased by 7.2% from 2020

Figure 9.1: Hepatitis C, Newly Reported Acute and Chronic Cases, NYS, 2021



Most newly reported cases were in males. Newly reported hepatitis C cases in males accounted for 62% of all cases; cases in females accounted for 38%.



2,633

Newly reported cases of hepatitis C in males



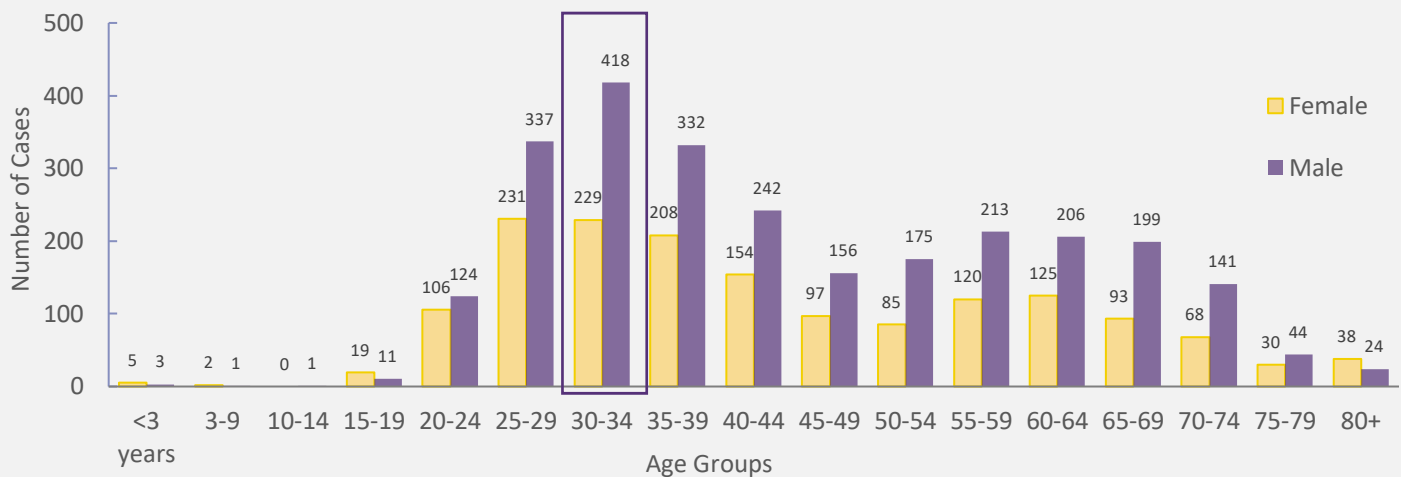
1,611

Newly reported cases of hepatitis C in females

Chronic cases accounted for 96% of all reported cases, followed by acute cases (4%). Perinatal cases accounted for less than 1% of all reports.

47% of cases in males were under the age of 40 and 50% of all female cases occurring in those under the age of 40. Females aged 25-29 years and males aged 30-34 years had the highest number of cases in 2021

Figure 9.2: Newly Reported Hepatitis C Cases by Age Group and Sex, NYS, 2021



Notes. Sex data represents sex at birth. Gender identity is not presented in this data report. See Variable Definitions and About Data on this Report on page 8-9. See Table 2.1 in the Data Appendix for additional information.

Infographic 10. Hepatitis C, Newly Reported Cases and Rates, by Region and Year, NYS excl. NYC, 2021

Figure 9.1: Newly Reported Cases of Hepatitis C, **Cases** and **Rates** per 100,000 pop. by NYS Region, 2021

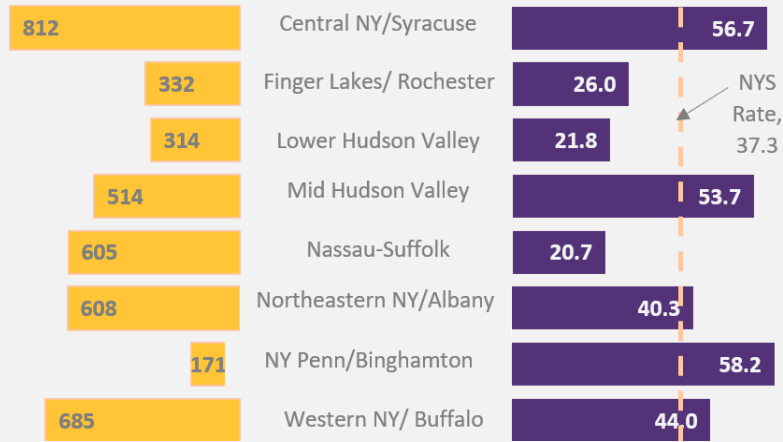
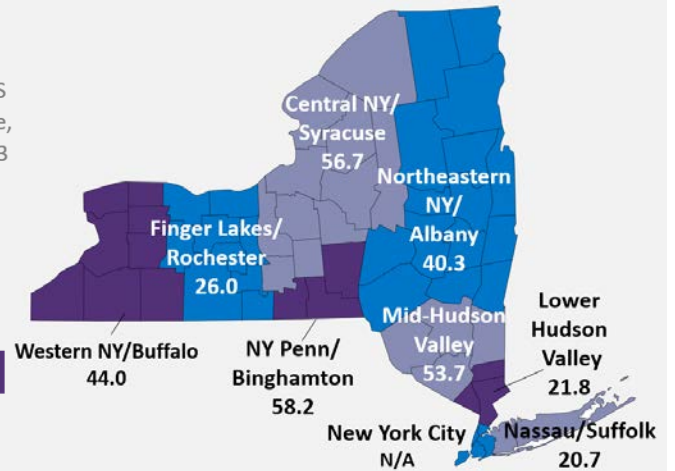
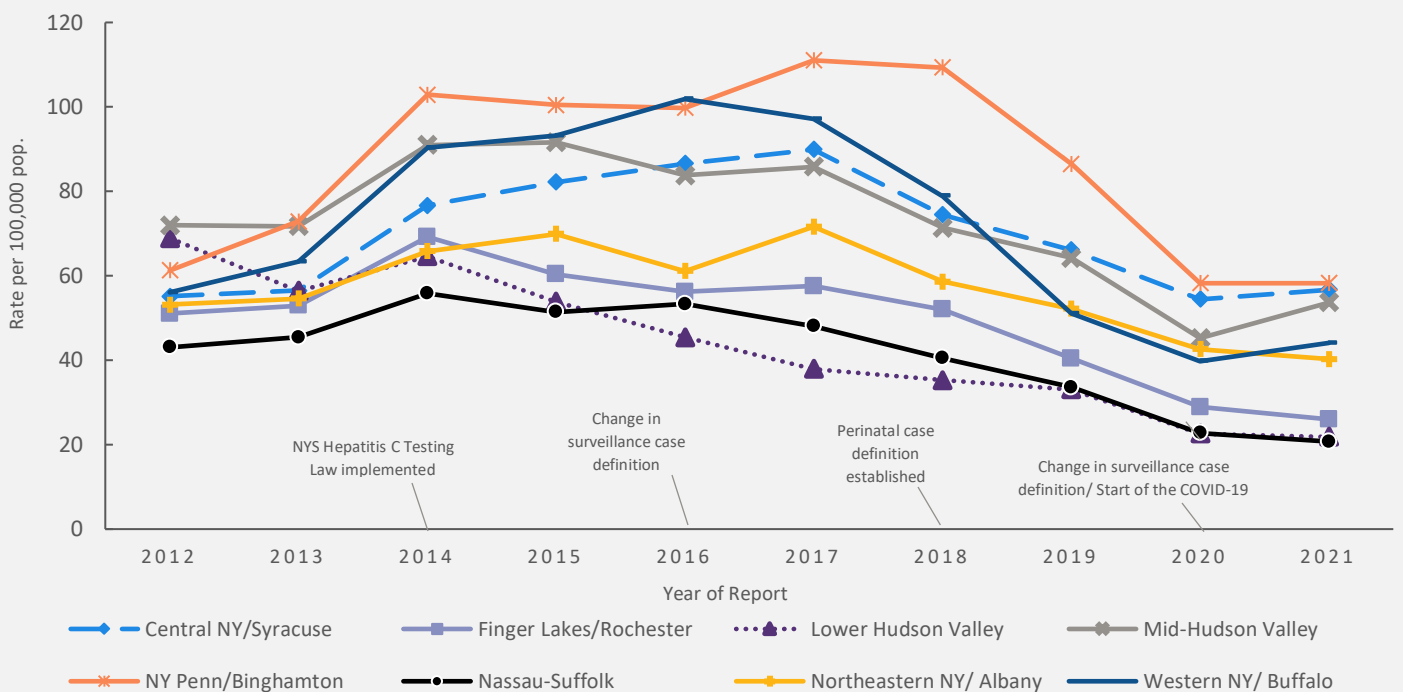


Figure 9.2: Hepatitis C, Rate per 100,000 pop. Newly Reported Cases by Region, 2021



In 2021, Central NY/Syracuse Region had the highest number of newly reported cases of hepatitis C (812), followed by the Western NY/ Buffalo Region (685). All regions, with exception of the Finger Lakes/Rochester, Lower Hudson Valley, and Nassau-Suffolk Regions, had case rates above the NYS case rate (37.7/100,000 pop).

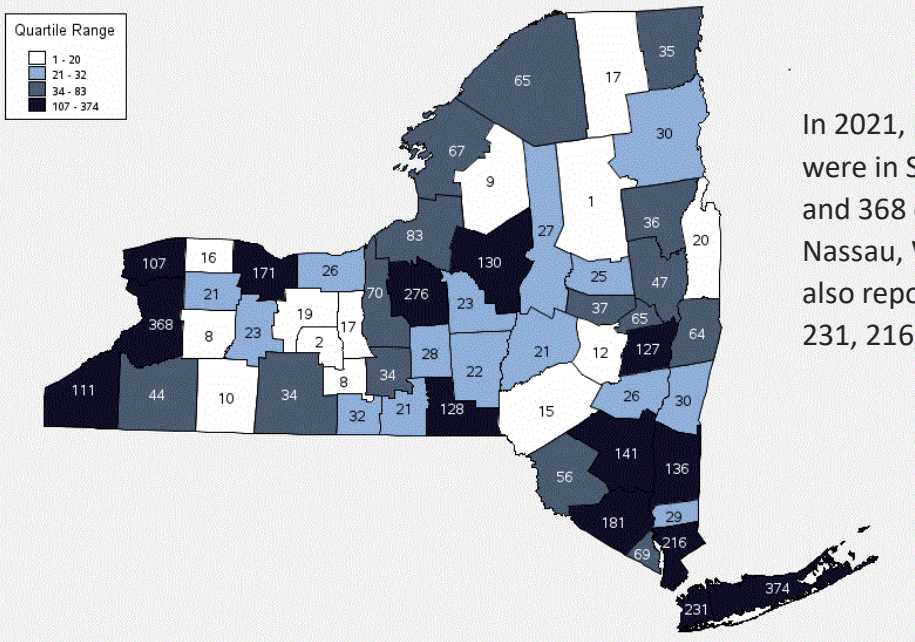
Figure 9.3: Hepatitis C, Newly Reported Cases, Rate per 100,000 pop. by NYS Region, 2012-2021



Notes. Counts represent newly reported cases in NYS outside of NYC. Regional case counts exclude cases in persons incarcerated in the Department of Corrections and Community Supervision (DOCCS). See table 2.5 in the Data Appendix

Infographic 11. Hepatitis C, Newly Reported Cases by County, NYS excl. NYC, 2021

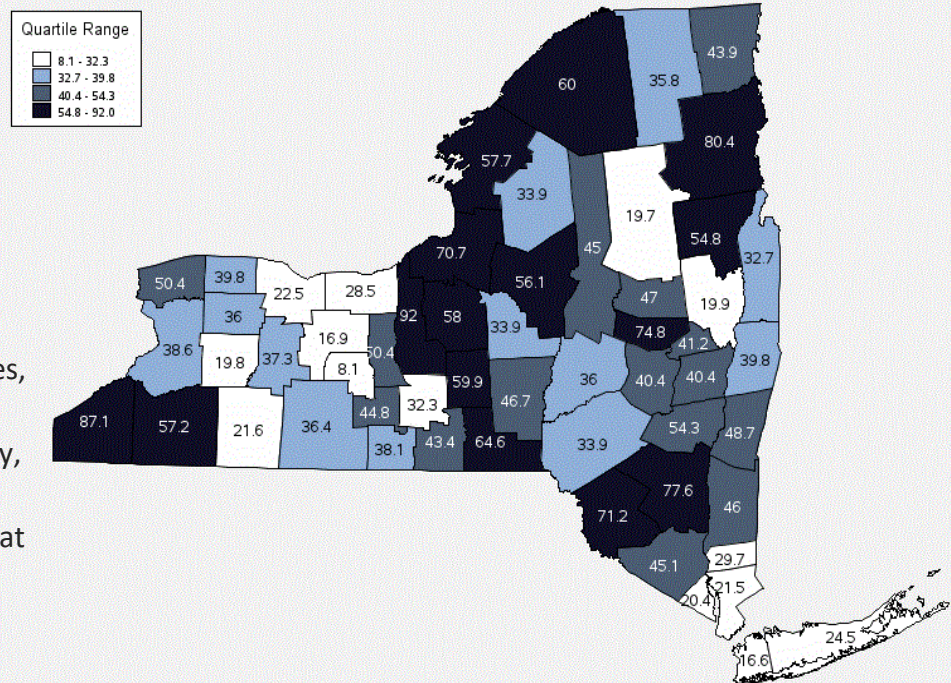
Figure 11.1: Hepatitis C, Newly Reported Cases by County, NYS excl. NYC, 2021



In 2021, highest number of reported cases were in Suffolk and Erie counties, with 374 and 368 cases respectively. Onondaga, Nassau, Westchester, Orange, and Monroe also reported high numbers of cases: 276, 231, 216, 181, and 171, respectively.

Figure 11.2: Newly Reported Cases Hepatitis C Rate, NYS excl. NYC, 2021

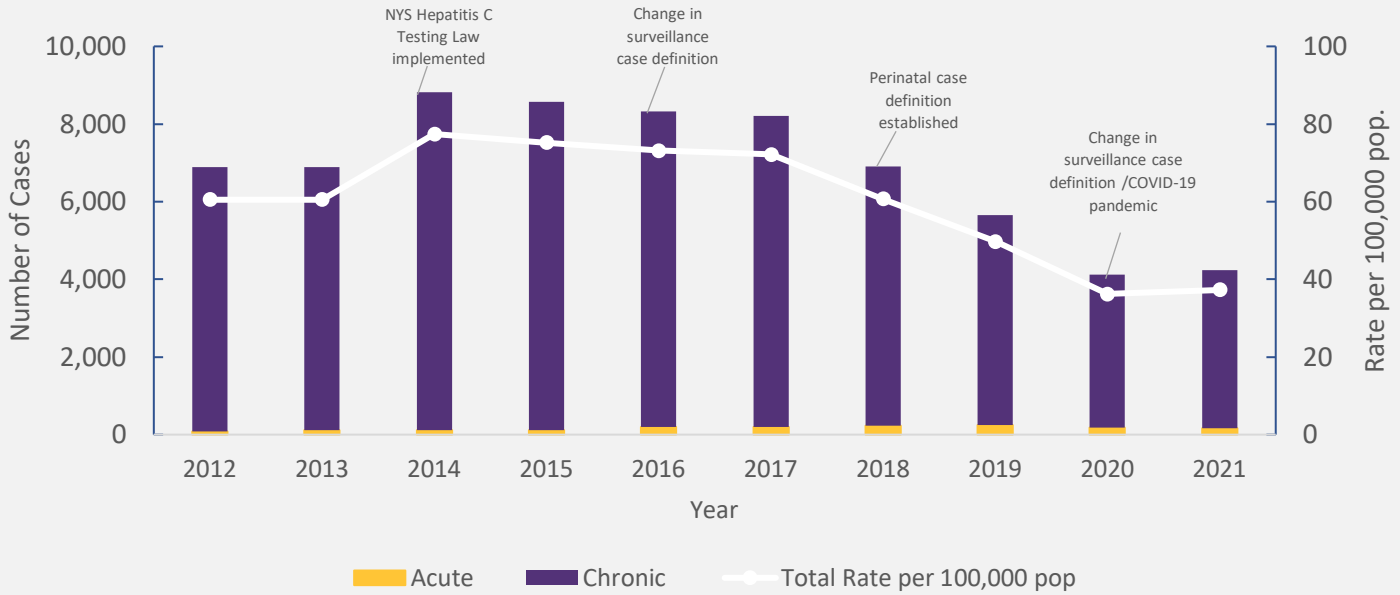
In 2021, the largest rates per 100,000 population were in Cayuga and Chautauqua counties, with 92.0 and 87.1 per 100,000 pop. Essex, Ulster, Montgomery, Sullivan, and Oswego had case rates per 100,000 population that exceeded 70.0 per 100,00 pop.



Infographic 12. Hepatitis C, Acute and Chronic Cases, by Year and Sex, NYS excl. NYC, 2012-2021

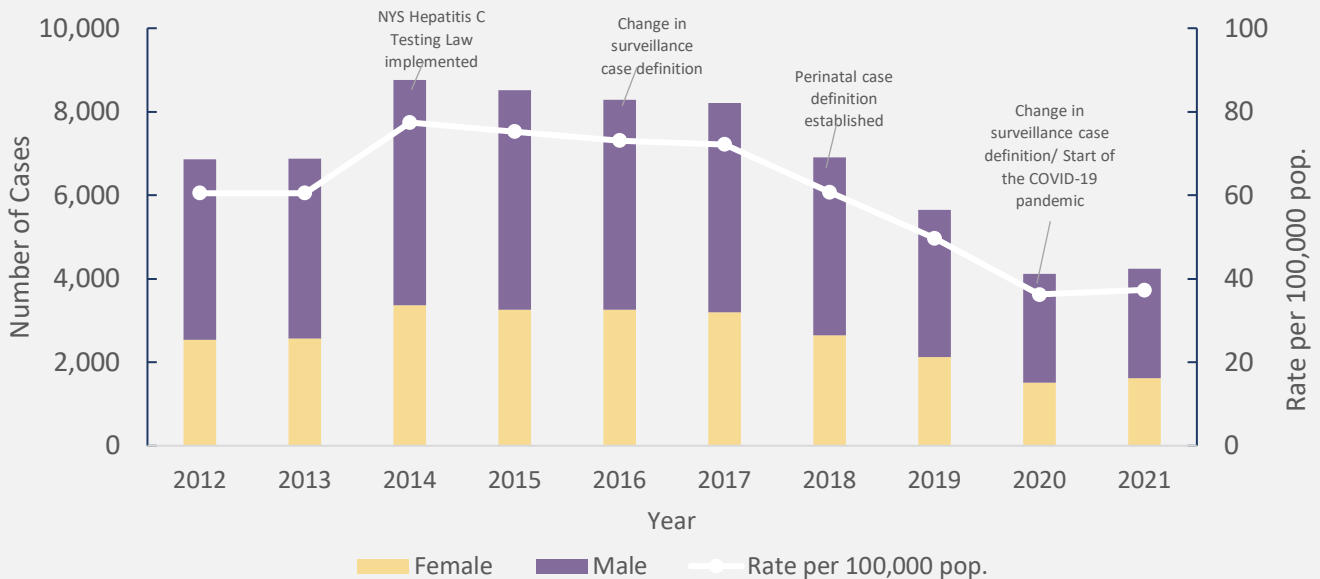
In general, the rate per 100,000 population of newly reported chronic hepatitis C cases have steadily declined since 2017, with the exception of 2020 to 2021. The number of newly reported acute hepatitis C cases has fluctuated over time.

Figure 12.1: Hepatitis C Number and Rate of Newly Reported Acute and Chronic Cases by Year, NYS, 2012-2021



Between 2012-2021, the number of newly reported cases have been impacted by changes in legislation and case definitions. Nevertheless, most newly reported cases have been reported among males.

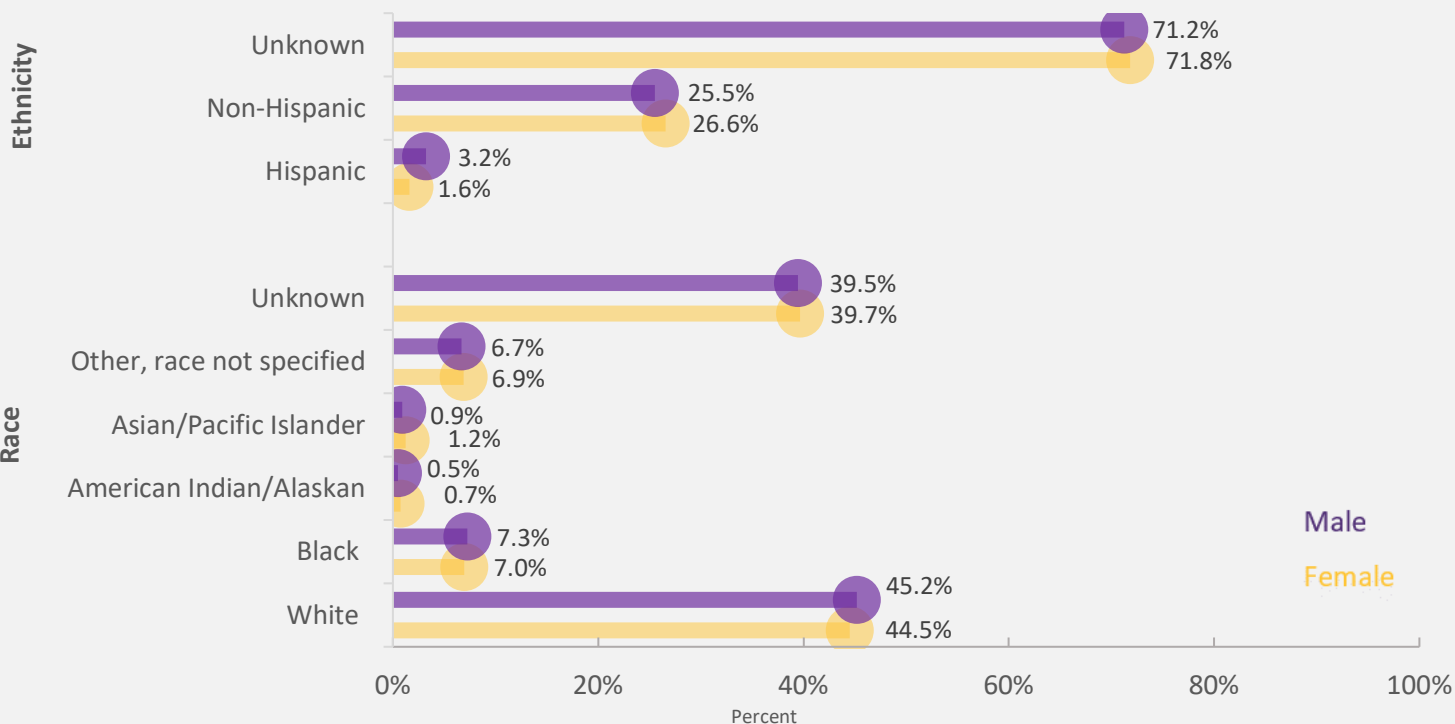
Figure 12.2: Hepatitis C Number and Rate of Newly Reported Cases by Sex, by Year, NYS, 2012-2021



Notes Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definition on page 8 for additional information. Hepatitis C case definition changed in 2016 and 2020. Rates per 100,000 pop are based on 2020 US Census data. Additional information Table 2.2, 2.3 in the Data Appendix.

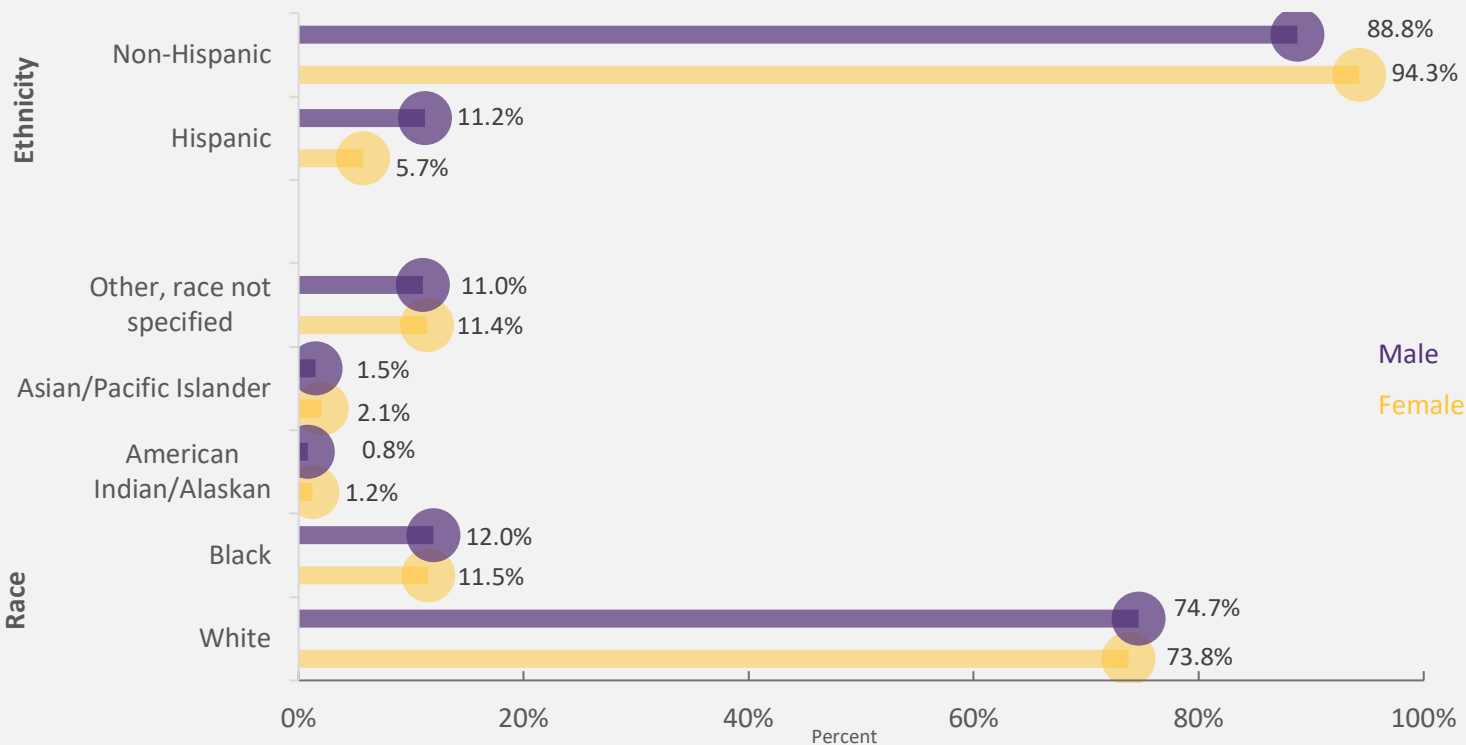
Infographic 13. Hepatitis C Newly Reported Cases by Sex, Race, and Ethnicity by Sex, NYS excl. NYC, 2021

Figure 13.1: Hepatitis C Newly Reported Cases, by Sex, Race and Ethnicity Including Cases with Unknown Race and Ethnicity, NYS excl., 2021



Where race and ethnicity were reported the highest percentage of newly reported cases of hepatitis C was among White persons for both females and males.

Figure 13.2: Hepatitis C Newly Reported Cases, by Sex, Race, and Ethnicity Excluding Cases with Unknown Race and Ethnicity, NYS excl., 2021



Note: Race data is missing for 32.1% of all hepatitis C acute cases and for 39.8% of all hepatitis C chronic cases. Ethnicity data is missing for 61.3% of all hepatitis C acute cases and for 71.9% of all hepatitis C chronic cases. Sex data represents sex at birth. Gender identity is not presented on this data report. See Variable Definition on page 8. See Table 2.2 in the Data Appendix.

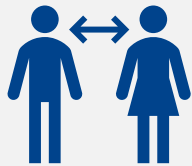
Infographic 14. Hepatitis C, Newly Reported Acute Cases, Risk Factors, NYS excl. NYC, 2021



In 2021, 25% of newly reported cases of acute hepatitis C indicate injection drug use as a risk factor. When analyzing those with known risk factors, 65% of newly reported acute cases indicate injection drug use as a risk factor.

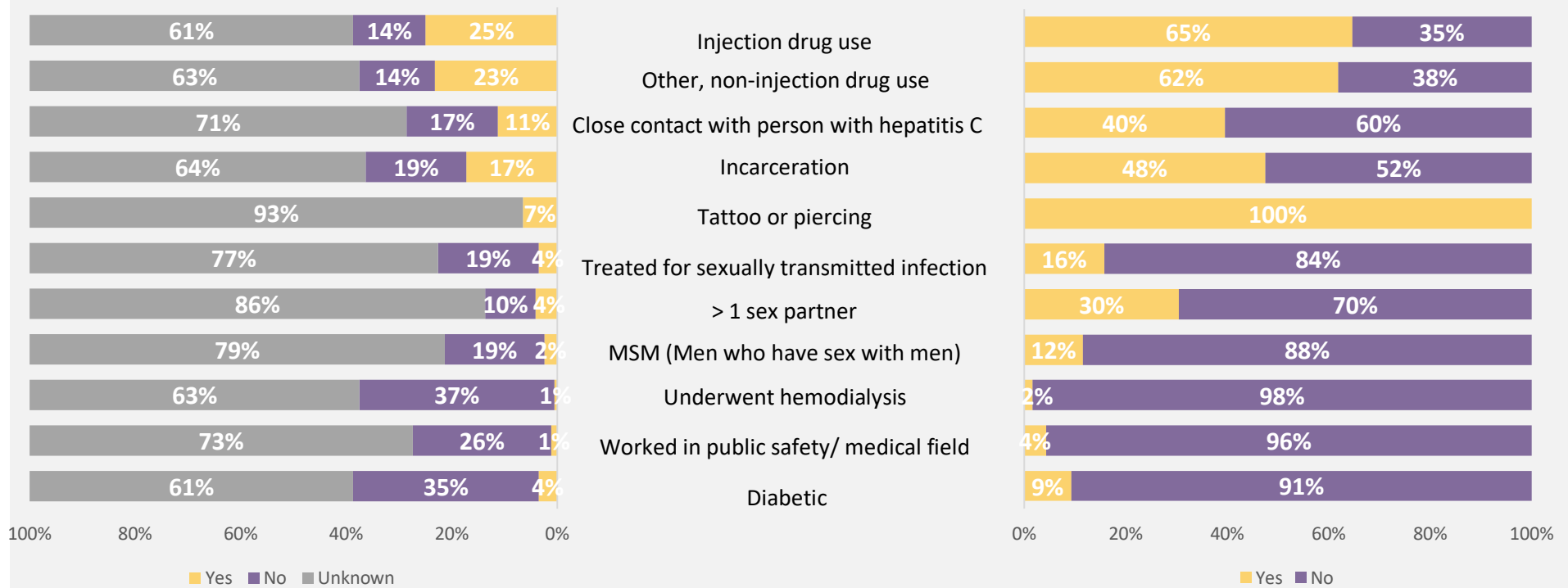


In 2021, 17% of newly reported cases of acute hepatitis C indicate recent incarceration. When analyzing those with known risk factors 48%, of newly reported acute cases has a recent incarceration.



In 2021, 11% of newly reported cases of acute hepatitis C indicate close contact with a person with hepatitis C. When analyzing those with known risk factors 40% of newly reported acute cases indicate close contact with another person with hepatitis C.

Figure 14.1: Hepatitis C Newly Reported Acute Cases, Risk Factor Information, NYS excl. NYC, 2021



Note. Risk factor information is missing, on average, for 72% of newly reported acute cases. Categories are not mutually exclusive. See Variable Definition for additional information on page 8. All acute hepatitis C cases with known information for tattoo or piercing risk factor indicate a tattoo or piercing during the risk factor collection period. See Table 2.8a, 2.8b in the Data Appendix.

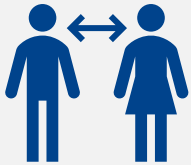
Infographic 15. Hepatitis C, Newly Reported Chronic Cases, by Risk Factors, NYS excl. NYC, 2021



In 2021, 16% of newly reported cases of chronic hepatitis C indicate injection drug use and 15% reported other, non-injection drug use. When analyzing those with known risk factors, 74% of newly reported chronic cases indicate injection drug use and 73% indicated other, non-injection drug use.

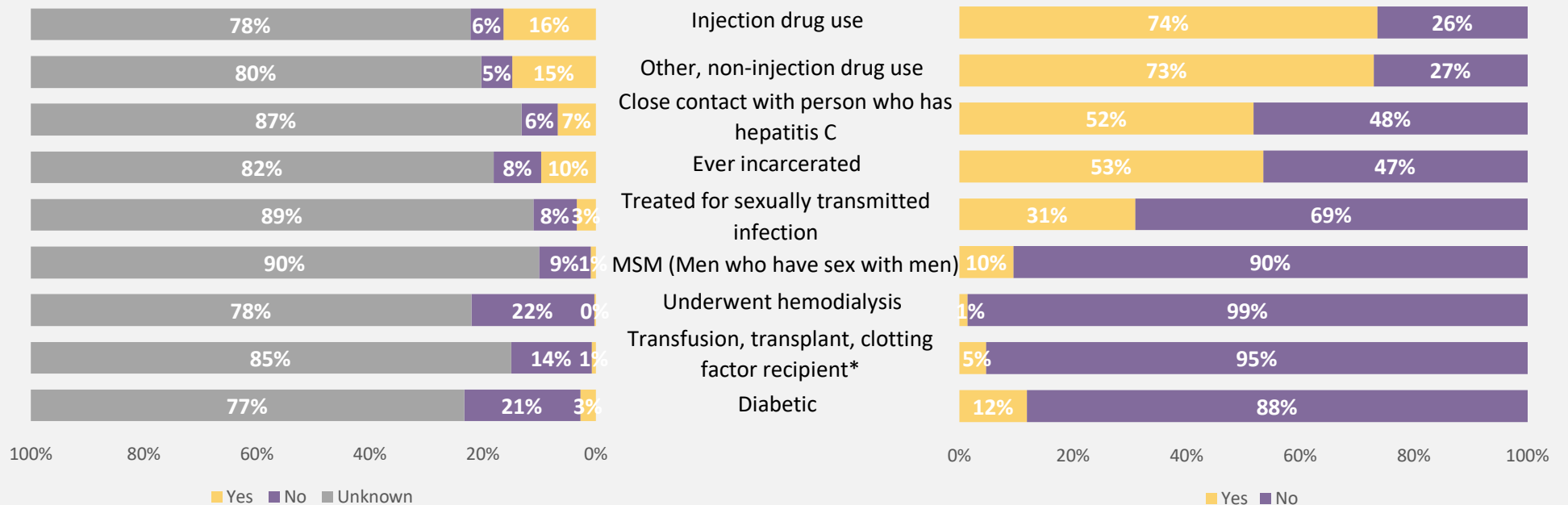


In 2021, 10% of newly reported cases of chronic hepatitis C indicate recent incarceration. When analyzing those with known risk factors, 53% of newly reported chronic cases has a history of incarceration.



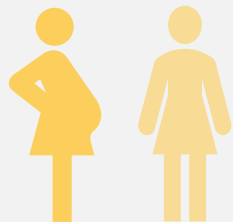
In 2021, 7% of newly reported cases of chronic hepatitis C indicate recent incarceration. When analyzing those with known risk factors, 52% of newly reported chronic cases indicate close contact with another person with hepatitis C

Figure 15.1: Hepatitis C, Newly Reported Chronic Cases, by Risk Factors, NYS excl. NYC, 2021



Note. Risk factor information is missing for 82% of newly reported chronic cases. Categories are not mutually exclusive. See Variable Definition for additional information on page 8. See table 2.8a, 2.8b in the Data Appendix.

Infographic 16. Hepatitis C, Cases Among Females of Reproductive Age, NYS excl. NYC, 2012-2021



Although, the number of newly reported cases of hepatitis C among persons able to become pregnant has declined between 2016 and 2021 the percentage of cases in persons able to become pregnant among females has remained stable at approximately 60%.

Figure 16.1: Hepatitis C Newly Reported Cases by Sex and Females of Reproductive Age (15-44 years), NYS, 2012-2021

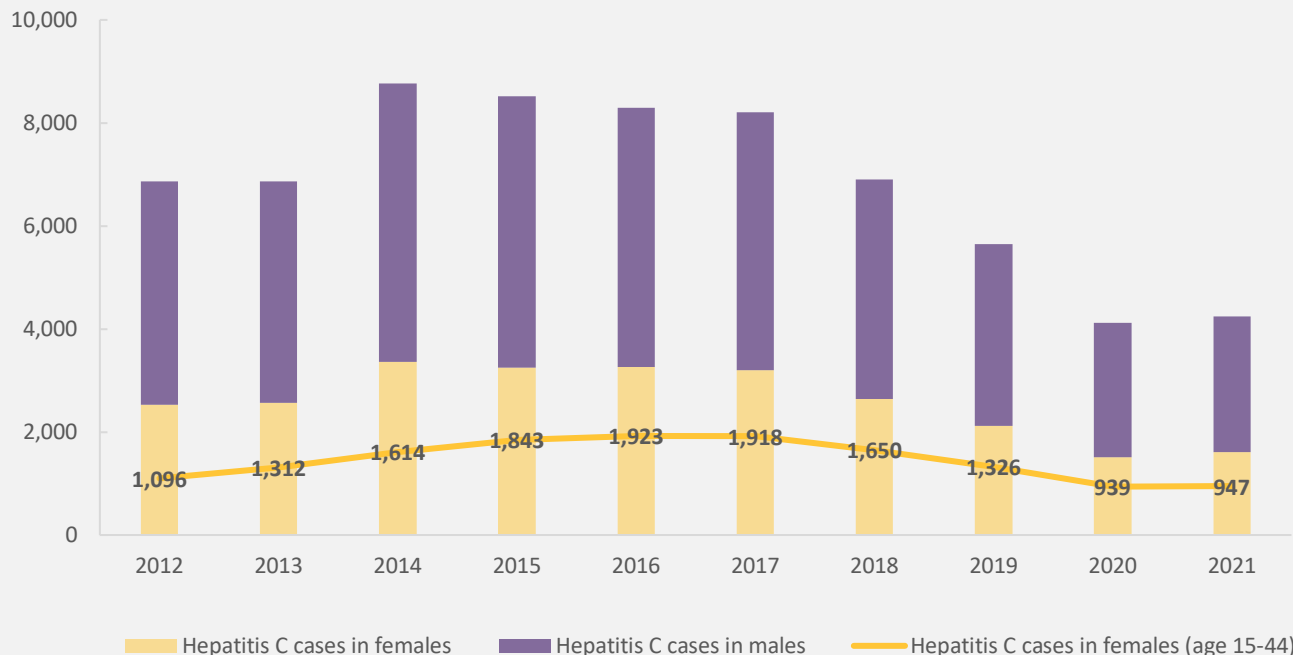
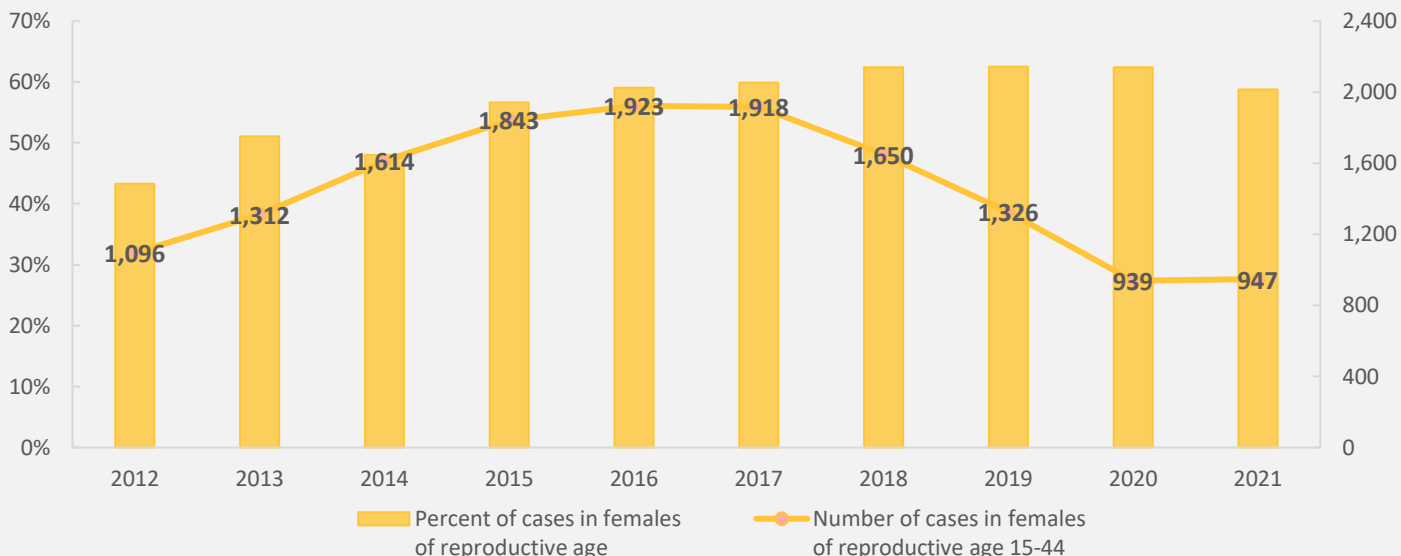


Figure 16.2: Hepatitis C Newly Reported Cases Among Persons of Reproductive Age (15-44 years), NYS excl. NYC, 2021



Notes. Sex data represents sex at birth. Gender identity is not presented in the infographics on this data report. See Variable Definition and About Data on this Report on page 8-9. See Table 2.7 in the Data Appendix.

Infographic 17. Hepatitis C, Newly Reported Cases Among Selected Birth Cohorts, NYS excl. NYC, 2012-2021

Persons Aged < 40 years



32% in 2012 → **48%** in 2021
of all newly reported cases

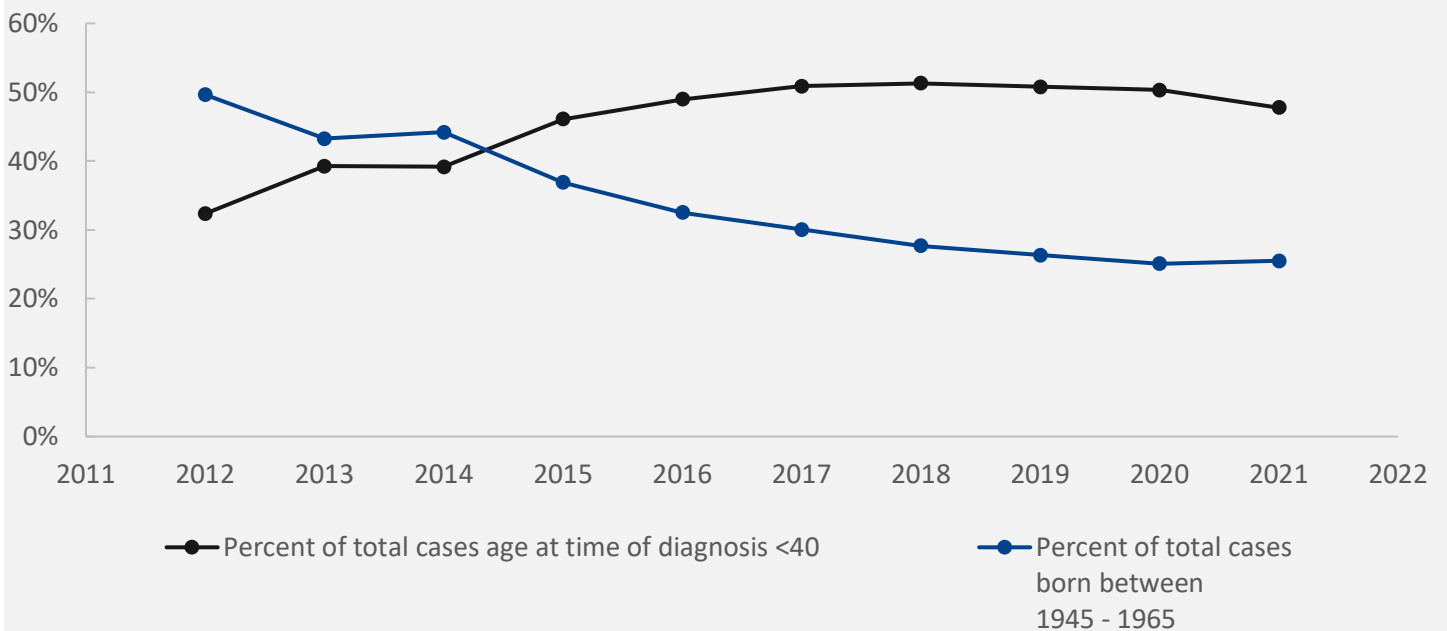
Baby Boomers (Born 1945 – 1965)



50% in 2012 → **25%** in 2021
of all newly reported cases

In 2012, 50% of all newly diagnosed cases of hepatitis C were diagnosed in Baby Boomers (born between 1945-1965) while those that were less than 40 years of age at the time of their diagnosis accounted for 32% of all cases. In 2021, 48% of all newly diagnosed cases of hepatitis C were in those under 40 years of age and only 25% were in Baby Boomers.

Figure 17.1: Percent of Total Newly Reported Hepatitis C Cases Less Than 40 Years of Age and Newly Reported Hepatitis C Cases Born Between 1945-1965, 2012-2021



Note. See Table 2.9 in the Data Appendix

ADDITIONAL DATA: HIV AND HCV SEROPREVALENCE STUDY AMONG INCARCERATED PERSONS ENTERING THE NYS DEPARTMENT OF CORRECTIONS AND COMMUNITY SUPERVISION (DOCCS) SYSTEM

Since 1988, the NYSDOH has conducted fourteen cycles of the HIV seroprevalence study of persons incoming to the DOCCS system. For this study, abstracted medical record data and HIV antibody testing of residual blood specimen from the routine intake process were collected for a sample of inmates entering one of four DOCCS reception/classification facilities (Bedford Hills, Ulster, Downstate, and Elmira). Since the 2000 cycle, screening for HCV antibodies has occurred. In the 2019 cycle, samples that were positive for HCV antibodies were also tested for HCV RNA, to determine the prevalence of HCV infection. Below are key findings and trends in HCV and HIV/HCV antibody positivity for the most recent cycle (2019 cohort).

HCV Antibody Testing:

- After delinking all identifiers, stored study blood specimens were tested to determine the presence of HCV antibodies (high signal-to-cutoff ratio).
- For the 2019 cohort, 13.0% (450/3,454) newly incarcerated persons were HCV antibody positive.
 - HCV antibody seroprevalence for females was 29.7%, up from 26.2% in 2017. (Figure A.1)
 - HCV antibody seroprevalence for males was 11.3%. This is slightly higher than previous cycles (10.6% in 2017 and 10.3% in 2015).
- HCV antibody seroprevalence has been consistently highest among newly incarcerated non-Hispanic White persons since the 2012 cycle.
- Other demographic and risk trends can be seen in Table A.1.

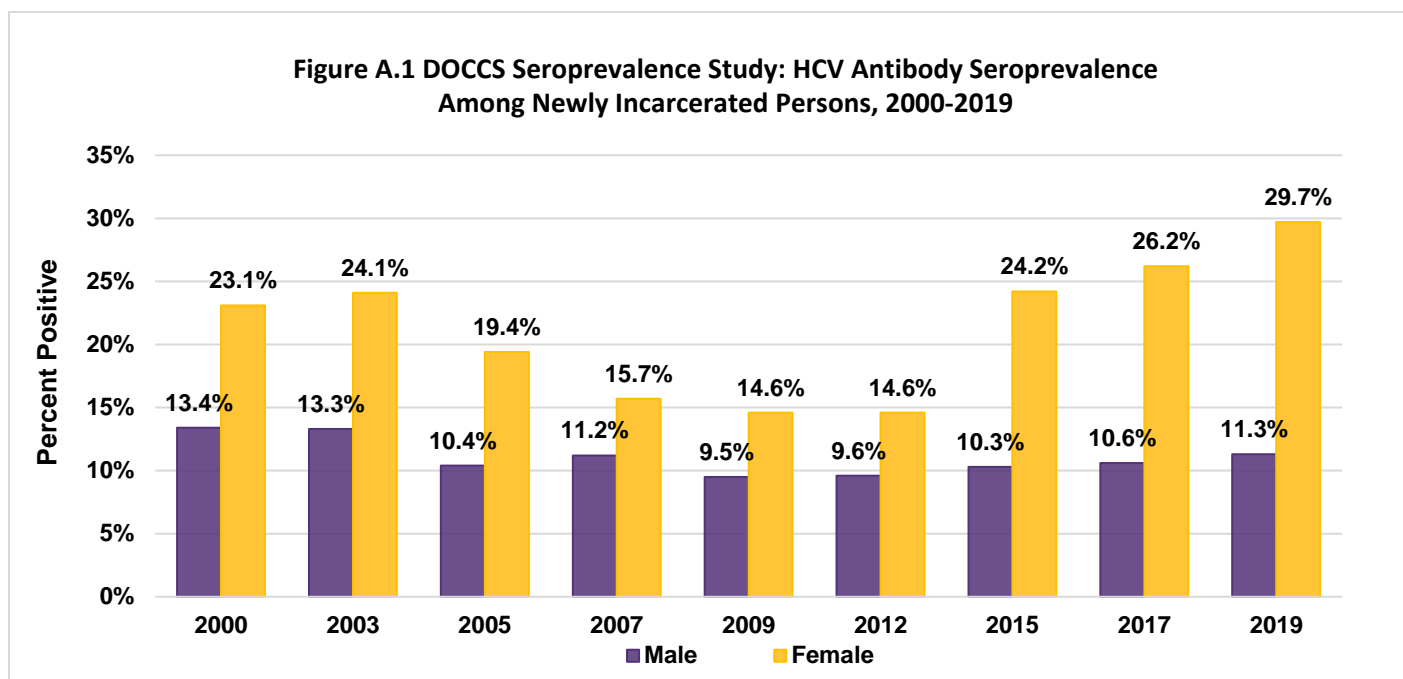


Table A.1 DOCCS Seroprevalence Study
HCV Antibody Seroprevalence* Among Newly Incarcerated Persons by Demographic and Risk Factors: 2000 - 2019

Demographics & Risk Factors	2000		2003		2005		2007		2009		2012		2015		2017		2019	
	# Positive	% Positive	# Positive	% Positive	# Positive	% Positive	# Positive	% Positive	# Positive	% Positive	# Positive	% Positive	# Positive	% Positive	# Positive	% Positive	# Positive	% Positive
Sex																		
Male	413	13.4	414	13.3	327	10.4	361	11.2	305	9.5	320	9.6	350	10.3	371	10.6	352	11.3
Female	190	23.1	197	24.1	146	19.4	141	15.7	125	14.6	128	14.6	206	24.2	233	26.2	98	29.7
Age																		
< 30	59	3.7	61	3.8	52	3.3	39	2.4	64	3.7	88	5.1	139	8.3	132	8.4	76	7.2
30 - 39	228	16.0	179	14.2	130	11.1	120	10.9	101	9.4	115	9.7	180	13.8	230	15.7	191	14.9
≥ 40	315	37.0	371	34.3	291	25.4	343	25.0	265	20.5	245	19.0	237	18.9	242	17.9	183	16.4
Race/Ethnicity																		
White	165	18.5	158	18.4	152	15.2	155	15.5	166	14.8	224	17.1	334	24.4	412	28.2	277	26.1
Black	227	11.3	230	11.6	168	8.5	160	7.5	121	6.1	88	4.6	77	4.3	80	4.3	72	4.6
Hispanic	204	22.0	209	21.4	149	17.6	178	19.3	135	15.3	115	13.6	129	14.3	93	10.3	81	11.3
Asian, Native American, or unknown	7	9.7	10	10.4	3	5.0	8	11.0	6	8.3	19	13.1	14	7.9	19	11.7	20	16.1
Region of Arrest/Commitment																		
NYC	359	17.8	354	17.5	247	14.1	291	14.8	218	11.6	176	9.9	171	10.0	108	7.2		
ROS	242	13.2	257	13.6	226	10.7	211	9.9	212	9.7	272	11.3	385	15.2	496	17.3		N/A
Risks																		
Injection drug use	235	78.9	281	78.1	184	45.1	206	72.8	204	62.6	225	53.4	368	56.2	415	56.9	298	63.1
Men having sex with men	6	21.4	11	16.7	21	11.1	7	14.9	2	3.1	10	17.2	7	14.3	9	15.5	5	8.8
Sex partner of injection drug user	106	56.1	133	53.0	109	36.2	103	52.3	81	50.6	152	48.3	260	53.9	330	53.7	216	58.2
Crack use	185	24.5	222	26.2	162	18.7	156	19.9	165	22.8	168	23.3	243	31.0	309	34.3	227	37.6
Sex for drugs/money	82	31.4	110	33.2	89	22.4	71	25.5	42	23.7	46	26.6	62	36.0	70	39.3	46	37.4
Any reported drug use	517	19.2	537	19.0	413	14.3	451	14.5	389	12.9	402	13.7	520	16.1	570	17.1	409	16.9

* Antibody seroprevalence: percent of persons with positive HCV antibody among all tested.

HCV RNA Testing:

- Samples that were positive for HCV antibodies were then tested for the presence of HCV RNA which indicates current HCV infection.
- In the 2019 cohort, 44.0% (198/450) individuals were HCV RNA positive indicating that they had an active HCV infection.
- HCV RNA seroprevalence was 32.7% for females and 47.2% for males.
- HCV RNA seroprevalence was highest among non-Hispanic White individuals (49.1%).
- Other demographic and risk information can be seen in Table A.2.

Table A.2. DOCCS Seroprevalence Study: HCV RNA Seroprevalence* Among Newly Incarcerated Persons by Demographic and Risk Factors, 2019

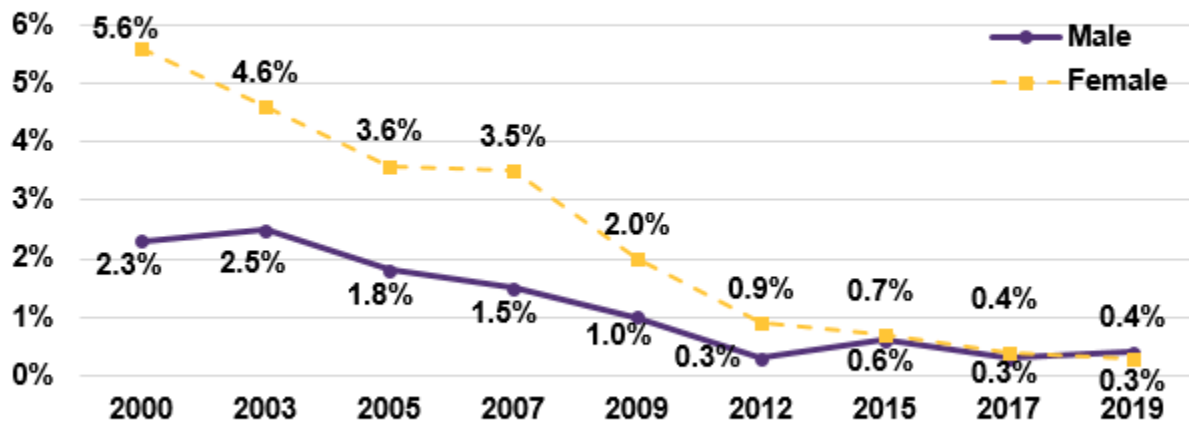
Demographics & Risk Factors	# RNA Positive	% RNA Positive among HCV Antibody Positive
Sex		
Male	166	47.2
Female	32	32.7
Age		
< 30	30	39.5
30 - 39	89	46.6
≥ 40	79	43.2
Race/Ethnicity		
White	136	49.1
Black	23	31.9
Hispanic	31	38.3
Asian, Native American, or unknown	8	40.0
Risks		
Injection drug use	145	48.7
Men having sex with men	0	N/A
Sex partner of injection drug user	101	46.8
Crack use	103	45.4
Sex for drugs/money	15	32.6
Any reported drug use	187	45.7

* RNA seroprevalence: percent of individuals with positive HCV RNA test among those with positive antibody test.

HIV/HCV Co-Infection

- In the 2019 study cohort, 0.4% (13) of tested newly incarcerated persons had detectable HIV and HCV antibodies, an 86.7% decline from 3.0% in 2000.
- Between 2000 and 2019, HIV co-infection rates decreased for both males (2.3% to 0.4%; an 82.6% decrease) and females (5.6% to 0.3%; a 94.6% decrease). (Figure A.2)
- Of the 59 individuals who tested seropositive for HIV antibodies, 22.0% (13/59) were also HCV antibody positive and 5.1% (3/59) were HCV RNA positive.
- Of the 450 individuals who tested seropositive for HCV antibodies, 2.9% (13/450) were also HIV antibody positive.
- Of the 198 individuals who tested seropositive for HCV RNA, 1.5% (3/198) were also HIV antibody positive.

Figure A.2. DOCCS Seroprevalence Study: HIV/HCV Co-Infection by Sex at Birth, 2000-2019



ADDITIONAL DATA: BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS) IN NEW YORK STATE

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual statewide telephone and cellular surveillance survey designed by CDC and administered by the NYSDOH. BRFSS collects and monitors self-reported information on behaviors, risk factors, and utilization of preventive services related to the leading causes of chronic and infectious diseases, disability, injury, and death among the noninstitutionalized, civilian population aged 18 years and older.

Between 2019-2021, the following questions about hepatitis C testing and diagnoses were included in the NYS BRFSS survey.

- Have you ever been tested for hepatitis C? Do not count tests you may have had as part of a blood donation.
- Has a doctor, nurse, or other health professional ever told you that you had hepatitis C?
- Were you told you were cured and no longer have hepatitis C?

Presented here are the weighted percentages and 95% confidence intervals among the adult population in New York State (including NYC), broken down by age, race/ethnicity, sex, and Medicaid coverage.

- 26.4% of adults reported having ever been tested for hepatitis C. There was no significant difference by age, but testing was more common among non-Hispanic Black persons, males, and adults with Medicaid coverage. (Table B.1)
- 1.2% of adults reported being told that they had hepatitis C. Baby Boomers (born from 1945-1965) were four times as likely to report being told they had hepatitis C than younger adults. (Table B.2)
- Among those who had been diagnosed with hepatitis C, 92.5% of adults reported also being told they were cured and no longer have hepatitis C. There was no significant difference by race/ethnicity or sex. (Table B.3)

Table B.1 New York State Adults* Ever Tested for Hepatitis C Behavioral Risk Factor Surveillance System, 2019-2021 (N=19,217)

Respondent Characteristic	Percent	95% CI
All Adults	26.4	(25.4, 27.4)
Age		
Younger Adults (Born 1966 or later)	27.6	(26.2, 29.1)
Baby Boomers (Born 1945-1965)	29.5	(27.9, 31.2)
Race/Ethnicity		
White Non-Hispanic	24.6	(23.4, 25.8)
Black Non-Hispanic	37.3	(33.9, 40.7)
Hispanic	24.8	(22.4, 27.2)
Other Non-Hispanic**	23.6	(20.0, 27.2)
Sex		
Male	29.4	(27.9, 31.0)
Female	23.5	(22.1, 24.8)
Insurance		
Medicaid	33.9	(30.8, 37.1)
Other*** Insurance	26.4	(25.3, 27.6)

Weighted percentages and 95% confidence intervals (95% CI) are shown. *All adults 18 years and older in New York State, including New York City. **Other Non-Hispanic includes Asian, American Indian or Alaskan Native, Native Hawaiian or other Pacific Islander, multiracial or other unspecified race. ***Other indicates any type of insurance not including Medicaid.

Table B.2 New York State Adults* Ever Told They Had Hepatitis C Behavioral Risk Factor Surveillance System, 2019-2021 (N=21,926)

Respondent Characteristic	Percent	95% CI
All Adults	1.2	(1.0, 1.4)
Age		
Younger Adults (Born 1966 or later)	0.6	(0.4, 0.8)
Baby Boomers (Born 1945-1965)	2.4	(1.9, 3.0)
Race/Ethnicity		
White Non-Hispanic	0.9	(0.7, 1.1)
Other** Race/Ethnicity	1.5	(1.1, 1.9)
Sex		
Male	1.5	(1.2, 1.9)
Female	0.9	(0.7, 1.2)
Insurance		
Medicaid	1.9	(1.2, 2.6)
Other*** Insurance	1.2	(0.9, 1.4)

Weighted percentages and 95% confidence intervals (95% CI) are shown. *All adults 18 years and older in New York State, including New York City. **Other includes Hispanic; all Non-White/Non-Hispanic races including Black, Asian, American Indian or Alaskan Native, Native Hawaiian or other Pacific Islander; multiracial or other unspecified race. ***Other indicates any type of insurance not including Medicaid.

Table B.3 New York State Adults* Told They Were Cured and No Longer Have Hepatitis C Behavioral Risk Factor Surveillance System, 2019-2021 (N=199)

Respondent Characteristic	Percent	95% CI
All Adults	92.5	(88.1, 96.9)
Race/Ethnicity		
White Non-Hispanic	90.4	(82.8, 98.0)
Other Race/Ethnicity**	93.1	(87.1, 99.0)
Sex		
Male	92.2	(87.0, 97.5)
Female	92.9	(85.2, 100.0)

Weighted percentages and 95% confidence intervals (95% CI) are shown. *All adults 18 years and older in New York State, including New York City. **Other includes Hispanic; all Non-White/Non-Hispanic races including Black, Asian, American Indian or Alaskan Native, Native Hawaiian or other Pacific Islander; multiracial or other unspecified race.

DATA APPENDIX

DATA APPENDIX 1 – HEPATITIS B SURVEILLANCE DATA

Table 1.1: Hepatitis B, Newly Reported Cases, by Sex, Age, and Region NYS excl. NYC, 2021

	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>	796	13.9	1,011	17.9	1,809	15.9
Perinatal	-	N/A	-	N/A	-	N/A
Acute	13	0.2	11	0.2	24	0.2
Chronic	783	13.6	1,000	17.7	1,785	15.7
<i>Age</i>						
< 2 years	-	N/A	-	N/A	-	N/A
2-9	2	N/A	3	N/A	5	N/A
10-14	2	0.6	5	1.4	7	1.0
15-19	15	4.1	9	2.3	24	3.2
20-24	33	9.0	36	9.3	69	9.2
25-29	58	17.0	55	15.3	113	16.1
30-34	97	28.5	78	22.1	175	25.2
35-39	110	32.2	126	36.1	236	34.2
40-44	81	24.6	128	38.5	209	31.6
45-49	83	24.3	110	32.3	194	28.5
50-54	54	13.9	90	23.4	145	18.7
55-59	56	13.0	113	26.9	169	19.9
60-64	54	13.2	75	18.9	129	16.0
65-69	55	16.0	77	23.8	132	19.8
70-74	46	16.1	51	20.1	97	18.0
75-79	25	12.5	30	18.5	55	15.2
80+	25	8.2	25	13.4	50	10.2
<i>Region of Residence</i>						
Central /Syracuse	68	9.5	79	11.1	147	10.3
Finger Lakes/Rochester	37	5.7	56	8.9	93	7.3
Lower Hudson Valley	153	20.9	164	23.2	318	22.1
Mid-Hudson Valley	49	10.3	57	11.8	106	11.1
Nassau-Suffolk	326	22.1	386	26.8	713	24.4
Northeast/Albany	69	9.1	91	12.1	160	10.6
NY Penn/Binghamton	8	5.4	17	11.6	25	8.5
Western NY/Buffalo	85	10.8	137	17.9	222	14.3

Notes. There were no perinatal hepatitis B cases reported in NYS excluding NYC in 2021. Two newly reported cases with unknown sex. Data represents case counts and rates in NYS excluding NYC. Cases are presented by sex at birth. Gender identity information is not presented in this report. See Variables Definition on page 8 and About Data on this Report on page 9. Total population counts for rates are based on US Census 2020 data. Cases among persons incarcerated in the Department of Corrections and Community Supervision (DOCCS) are excluded from regional case counts.

Table 1.2: Hepatitis B, Newly Reported Cases, by Race, and by Ethnicity NYS excl. NYC, 2021

	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	131	16.5%	175	17.3%	306	16.9%
Black	79	9.9%	122	12.1%	201	11.1%
American Indian	5	0.6%	2	0.2%	7	0.4%
Asian/Pacific Islander	176	22.1%	206	20.4%	383	21.2%
Other, race not specified	61	7.7%	67	6.6%	128	7.1%
Unknown	344	43.2%	439	43.4%	784	43.3%
<i>Ethnicity</i>						
Hispanic	32	4.0%	29	2.9%	61	3.4%
Non-Hispanic	186	23.4%	237	23.4%	424	23.4%
Unknown	578	72.6%	745	73.7%	1,324	73.2%

Notes. Race and ethnicity information is self-reported and collected through laboratory reporting and case investigation. Information on race and ethnicity is largely missing from surveillance case reports. Cases are presented by sex at birth. Gender identity information is not presented in this report. See Variables Definition on page 8 and About Data on this Report on page 9.

Table 1.3: Hepatitis B, Newly Reported Cases and Rates per 100,000 pop. by Sex, NYS excl. NYC, 2012-2021

	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	702	12.2	1,097	19.5	1,809	15.9
2014	736	12.8	1,105	19.6	1,846	16.2
2015	776	13.5	1,067	18.9	1,845	16.2
2016	817	14.2	1,075	19.1	1,895	16.6
2017	848	14.8	1,148	20.4	1,996	17.5
2018	764	13.3	1,097	19.5	1,863	16.4
2019	794	13.8	1,074	19.1	1,870	16.4
2020	690	12.0	854	15.2	1,552	13.6
2021	796	13.9	1,011	17.9	1,809	15.9

Notes. The acute and chronic hepatitis B case definition has remained unchanged between 2012-2021. Denominators for rates per 100,000 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 Variables Definition on page 8 and About Data on this Report on page 9.

Table 1.4: Hepatitis B, Newly Reported Acute and Chronic Cases and Rates per 100,000 pop. NYS excl. NYC, 2012-2021

	No. of Chronic Cases	No. of Acute Cases	Total	Rate per 100,000 pop
2012	1,594	52	1,646	14.5
2013	1,760	49	1,809	15.9
2014	1,806	40	1,846	16.2
2015	1,813	32	1,845	16.2
2016	1,853	42	1,895	16.6
2017	1,959	37	1,996	17.5
2018	1,832	32	1,863	16.4
2019	1,818	52	1,870	16.4
2020	1,527	25	1,552	13.6
2021	1,785	24	1,809	15.9

Notes. The acute and chronic hepatitis B case definition has remained unchanged between 2012-2021. Denominators for rates per 100,000 use US Census 2020 data for comparison purposes. See Variables Definition on page 8 and About Data on this Report on page 9.

Table 1.5: Hepatitis B, Newly Reported Cases and Rates per 100,000 pop. by Region, NYS excl. NYC, 2012-2021

	Central NY/ Syracuse		Finger Lakes/ Rochester		Lower Hudson Valley		Mid-Hudson Valley		NY Penn/ Binghamton		Nassau/Suffolk		Northeastern NY/ Albany		Western NY/ Buffalo		Statewide Total	
	No Cases	Rate per 100,000	No Cases	Rate per 100,000	No Cases	Rate per 100,000	No Cases	Rate per 100,000	No Cases	Rate per 100,000	No Cases	Rate per 100,000	No Cases	Rate per 100,000	No Cases	Rate per 100,000	No Cases	Rate per 100,000
2012	181	12.6	115	9.0	215	14.9	124	13.0	23	7.8	607	20.8	124	8.2	196	12.6	1,646	14.5
2013	204	14.2	128	10.0	384	26.7	107	11.2	16	5.4	590	20.2	130	8.6	172	11.1	1,809	15.9
2014	212	14.8	139	10.9	301	20.9	124	13.0	20	6.8	658	22.5	168	11.1	174	11.2	1,846	16.2
2015	197	13.8	132	10.3	300	20.8	131	13.7	17	5.8	672	23.0	149	9.9	203	13.1	1,845	16.2
2016	185	12.9	109	8.5	333	23.1	118	12.3	28	9.5	727	24.9	158	10.5	192	12.3	1,895	16.6
2017	186	13.0	149	11.7	361	25.1	132	13.8	15	5.1	787	27.0	160	10.6	158	10.2	1,996	17.5
2018	163	11.4	103	8.1	318	22.1	136	14.2	21	7.2	721	24.7	194	12.9	152	9.8	1,863	16.4
2019	129	9.0	108	8.5	359	24.9	112	11.7	26	8.9	739	25.3	174	11.5	181	11.6	1,870	16.4
2020	135	9.4	103	8.1	235	16.3	117	12.2	26	8.9	635	21.8	118	7.8	162	10.4	1,552	13.6
2021	147	10.3	93	7.3	318	22.1	106	11.1	25	8.5	713	24.4	160	10.6	222	14.3	1,809	15.9

Notes. The acute and chronic hepatitis B case definition has remained unchanged between 2012-2021. Cases among persons incarcerated in the Department of Corrections and Community Supervision (DOCCS) are excluded from regional case counts. Denominators for rates per 100,000 use US Census 2020 data for comparison purposes. See Variables Definition on page 8 and About Data on this Report on page 9.

Table 1.6: Hepatitis B, Newly Reported Cases and Rate per 100,000 pop. by County, NYS excl NYC, 2021

County	No. of Cases	2020 Population	Rate per 100,000 pop	County	No. of Cases	2020 Population	Rate per 100,000 pop
Albany	56	314,368	17.8	Niagara	20	212,252	9.4
Allegany	1	46,373	2.2	Oneida	42	231,695	18.1
Broome	18	198,199	9.1	Onondaga	48	475,653	10.1
Cattaraugus	9	76,907	11.7	Ontario	2	112,475	1.8
Cayuga	9	76,095	11.8	Orange	54	401,322	13.5
Chautauqua	19	127,424	14.9	Orleans	2	40,236	5.0
Chemung	5	83,882	6.0	Oswego	0	117,351	0.0
Chenango	3	47,073	6.4	Otsego	4	58,351	6.9
Clinton	2	79,715	2.5	Putnam	19	97,660	19.5
Columbia	2	61,550	3.2	Rensselaer	20	160,923	12.4
Cortland	3	46,723	6.4	Rockland	64	338,121	18.9
Delaware	6	44,186	13.6	St. Lawrence	9	108,311	8.3
Dutchess	29	295,742	9.8	Saratoga	16	235,689	6.8
Erie	163	953,254	17.1	Schenectady	26	157,861	16.5
Essex	5	37,336	13.4	Schoharie	2	29,720	6.7
Franklin	5	47,527	10.5	Schuyler	1	17,857	5.6
Fulton	3	53,160	5.6	Seneca	2	33,715	5.9
Genesee	6	58,258	10.3	Steuben	1	93,363	1.1
Greene	3	47,890	6.3	Suffolk	240	1,524,099	15.7
Hamilton	2	5,078	39.4	Sullivan	7	78,643	8.9
Herkimer	4	60,007	6.7	Tioga	4	48,355	8.3
Jefferson	9	116,134	7.7	Tompkins	18	105,404	17.1
Lewis	1	26,538	3.8	Ulster	16	181,687	8.8
Livingston	0	61,699	0.0	Warren	4	65,638	6.1
Madison	4	67,890	5.9	Washington	0	61,143	0.0
Monroe	79	758,554	10.4	Wayne	3	91,103	3.3
Montgomery	4	49,433	8.1	Westchester	235	1,003,245	23.4
Nassau	473	1,393,978	33.9	Wyoming	2	40,401	5.0
				Yates	0	24,709	0.0

Notes. Case counts by county exclude cases in persons incarcerated in the Department of Corrections and Community Supervision (DOCCS). Denominators for rates per 100,000 use US Census 2020 data for comparison purposes. See Variables Definition on page 8 and About Data on this Report on page 9. Note that Hamilton County had only 2 newly reported cases of hepatitis B. Rates per 100,000 pop. for single digit case counts, should be interpreted with caution.

Table 1.7: Hepatitis B, Newly Reported Cases in Females and Females of Reproductive Age, NYS excl. NYC, 2012-2021

	Total No. Cases	No. Cases in females	No cases in females of reproductive age 15-44	Percent of cases in females of reproductive age
2012	1,646	700	396	56.6%
2013	1,809	702	400	57.0%
2014	1,846	736	415	56.4%
2015	1,845	776	420	54.1%
2016	1,895	817	441	54.0%
2017	1,996	848	455	53.7%
2018	1,863	764	410	53.7%
2019	1,870	794	439	55.3%
2020	1,552	690	330	47.8%
2021	1,809	796	394	49.5%

Note. The acute and chronic hepatitis B case definition has remained unchanged between 2012-2021. Cases are presented by sex at birth. Gender identity information is not presented in this report. See Variables Definition on page 8 and About Data on this Report on page 9.

Table 1.8a: Hepatitis B, Newly Reported Acute Cases, by Risk Factor, NYS excl. NYC, 2021

	Yes		No		Unknown		Total
	No. Cases	Percent	No. Cases	Percent	No. Cases	Percent	
Injection drug use	4	16.7%	10	41.7%	10	41.7%	24
Other, non-injection drug use	1	4.2%	12	50.0%	11	45.8%	24
Close contact with person with hepatitis B	2	8.3%	8	33.3%	14	58.3%	24
Ever incarcerated	0	0.0%	13	54.2%	11	45.8%	24
Treated for STD	1	4.2%	11	45.8%	12	50.0%	24
MSM (Men who have sex with men)	0	0.0%	6	54.5%	5	45.5%	11
Underwent hemodialysis	0	0.0%	15	62.5%	9	37.5%	24
Worked in a medical field	0	0.0%	14	58.3%	10	41.7%	24
Diabetic	5	20.8%	10	41.7%	9	37.5%	24
Ever vaccinated against Hep B	4	16.7%	7	29.2%	13	54.2%	24

Note. MSM presents cases with sex at birth reported as male and cases that report having at least 1 male as a sexual partner. See Variables Definition on page 8 and About Data on this Report on page 9. Risk factors for acute cases are collected for the 160 days, about 6 months, prior to the positive test.

Table 1.8b: Newly Reported Chronic Hepatitis B, Risk Factor, NYS excl. NYC, 2021

	Yes		No		Unknown		Total
	No. Cases	Percent	No. of Cases	Percent	No. Cases	Percent	
Injection drug use	22	1.2%	376	21.1%	1,387	77.7%	1,785
Other, non-injection drug use	26	1.5%	372	20.8%	1,387	77.7%	1,785
Close contact with person with Hep B	53	3.0%	198	11.1%	1,534	85.9%	1,785
Ever incarcerated	30	1.7%	329	18.4%	1,426	79.9%	1,785
Treated for STD	20	1.1%	288	16.1%	1,477	82.7%	1,785
MSM (Men who have sex with men)	19	1.9%	157	15.7%	824	82.4%	1,000
Underwent hemodialysis	25	1.4%	491	27.5%	1,269	71.1%	1,785
Worked in a medical field	16	0.9%	385	21.6%	1,384	77.5%	1,785
Diabetic	67	3.8%	475	26.6%	1,243	69.6%	1,785
Ever vaccinated against Hep B	48	2.7%	169	9.5%	1,568	87.8%	1,785

Note. Cases are presented by sex at birth. Gender identity information is not presented in this report. MSM presents cases with sex male that report having at least 1 male sexual partner. See Variables Definition on page 8 and About Data on this Report on page 9. Risk factors for chronic cases are collected through the individual's lifetime.

DATA APPENDIX 2 – HEPATITIS C SURVEILLANCE DATA

Table 2.1: Hepatitis C, Newly Reported Cases, by Sex, Age, and Region NYS excl. NYC, 2021

	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.
Total	1,611	28.0	2,633	46.7	4,249	37.3
Perinatal	5	N/A	3	N/A	8	N/A
Acute	46	0.8	122	2.2	168	1.5
Chronic	1,560	27.2	2,508	44.5	4,073	35.8
Age						
<3 years	5	N/A	3	N/A	8	N/A
3-9	2	N/A	1	N/A	3	N/A
10-14	-	N/A	1	N/A	1	N/A
15-19	19	5.1	11	2.8	31	4.1
20-24	106	28.7	124	32.2	230	30.5
25-29	231	67.8	337	93.8	569	81.3
30-34	229	67.3	418	118.5	647	93.3
35-39	208	60.9	332	95.2	541	78.4
40-44	154	46.8	242	72.7	396	59.8
45-49	97	28.5	156	45.8	253	37.1
50-54	85	21.8	175	45.4	261	33.7
55-59	120	27.8	213	50.8	333	39.1
60-64	125	30.6	206	51.9	331	41.1
65-69	93	27.0	199	61.5	292	43.8
70-74	68	23.8	141	55.6	209	38.8
75-79	30	15.0	44	27.1	74	20.5
80+	38	12.5	24	12.8	62	12.6
Unknown	1	N/A	6	N/A	8	N/A
Region of Residence						
Central NY /Syracuse	315	43.9	497	69.5	812	56.7
Finger Lakes/Rochester	103	15.9	229	36.5	332	26.0
Lower Hudson Valley	120	16.4	193	27.3	314	21.8
Mid-Hudson Valley	204	42.9	309	64.2	514	53.7
Nassau-Suffolk	246	16.6	358	24.9	605	20.7
Northeast/Albany	216	28.6	391	51.9	608	40.3
NY Penn/Binghamton	69	46.8	102	69.7	171	58.2
Western NY/Buffalo	307	38.9	378	49.3	685	44.0

Notes. Total case count includes 5 cases where sex at birth is missing. Data represents case counts and rates in NYS excluding NYC. Cases are presented by sex at birth. Gender identity information is not presented in this report. See Variables Definition on page 8 and About Data on this Report on page 9. Rates per 100,000 pop. for single digit case counts are not presented. Total population counts for rates are based on 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: Hepatitis C, Newly Reported Cases, by Race, and by Ethnicity, NYS excl. NYC, 2021

	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	717	44.5%	1,190	45.2%	1,909	44.9%
Black	112	7.0%	191	7.3%	304	7.2%
American Indian	12	0.7%	13	0.5%	25	0.6%
Asian/Pacific Islander	20	1.2%	24	0.9%	44	1.0%
Other, race not specified	111	6.9%	176	6.7%	287	6.8%
Unknown	639	39.7%	1,039	39.5%	1,680	39.5%
<i>Ethnicity</i>						
Hispanic	26	1.6%	85	3.2%	112	2.6%
Non-Hispanic	428	26.6%	672	25.5%	1,101	25.9%
Unknown	1,157	71.8%	1,876	71.2%	3,036	71.5%

Notes. Race and ethnicity information is self-reported and collected through laboratory reporting and case investigation. Information on race and ethnicity is largely missing from surveillance case reports. Cases are presented by sex at birth. Gender identity information is not presented in this report. See Variables Definition on page 8 and About Data on this Report on page 9.

Table 2.3: Hepatitis C, Newly Reported Cases and Rates per 100,000 pop. by Sex, NYS excl. NYC, 2012-2021

	Female		Male		Total	
	Number of Cases	Rate per 100,000 pop.	Number of Cases	Rate per 100,000 pop.	Total Number of Cases	Rate per 100,000 pop.
2012	2,531	44.1	4,336	76.9	6,886	60.5
2013	2,566	44.7	4,304	76.4	6,889	60.5
2014	3,360	58.5	5,407	95.9	8,812	77.4
2015	3,255	56.7	5,260	93.3	8,564	75.2
2016	3,257	56.7	5,034	89.3	8,321	73.1
2017	3,199	55.7	5,004	88.8	8,213	72.2
2018	2,642	46.0	4,264	75.7	6,911	60.7
2019	2,119	36.9	3,532	62.7	5,661	49.7
2020	1,504	26.2	2,618	46.4	4,126	36.3
2021	1,611	28.0	2,633	46.7	4,249	37.3

Notes. Gender identity information is not presented in this report. See Variables Definition on page 8 and About Data on this Report on page 9. Denominators for rates per 100,000 use US Census 2020 data for comparison purposes.

Table 2.4: Hepatitis C, Newly Reported Acute and Chronic Cases and Rates per 100,000 pop., NYS excl. NYC, 2012-2021

	No. of Chronic Cases	No. of Acute Cases	Total	Rate per 100,000 pop
2012	6,806	80	6,886	60.5
2013	6,774	115	6,889	60.5
2014	8,698	114	8,812	77.4
2015	8,451	113	8,564	75.2
2016	8,123	198	8,321	73.1
2017	8,010	203	8,213	72.2
2018	6,665	237	6,911	60.7
2019	5,398	251	5,661	49.7
2020	3,940	181	4,126	36.3
2021	4,073	168	4,249	37.3

Notes. The acute and chronic hepatitis C case definition has changed in 2016 and 2020. Comparisons across years should be interpreted with caution. Cases are presented by sex at birth. Gender identity information is not presented in this report. See Variables Definition on page 8 and About Data on this Report on page 9. Denominators for rates per 100,000 use US Census 2020 data for comparison purposes.

Table 2.5: Hepatitis C, Newly Reported Cases and Rates per 100,000 pop. by Region, NYS excl. NYC, 2012-2021

	Central NY/ Syracuse		Finger Lakes/ Rochester		Lower Hudson Valley		Mid-Hudson Valley		NY Penn/ Binghamton	
	No. Cases	Rate per 100,000	No. Cases	Rate per 100,000	No. Cases	Rate per 100,000	No. Cases	Rate per 100,000	No. Cases	Rate per 100,000
2012	789	55.1	652	51.0	992	68.9	689	72.0	180	61.3
2013	809	56.5	676	52.9	812	56.4	687	71.8	214	72.9
2014	1,098	76.7	884	69.2	930	64.6	871	91.0	302	102.9
2015	1,177	82.2	771	60.4	775	53.9	877	91.6	295	100.5
2016	1,240	86.6	718	56.2	654	45.4	802	83.8	293	99.8
2017	1,287	89.9	735	57.5	546	37.9	822	85.9	326	111.0
2018	1,066	74.5	664	52.0	508	35.3	683	71.3	321	109.3
2019	947	66.1	516	40.4	476	33.1	615	64.2	254	86.5
2020	779	54.4	369	28.9	325	22.6	433	45.2	171	58.2
2021	812	56.7	332	26.0	314	21.8	514	53.7	171	58.2

Table 2.5: Hepatitis C, Newly Reported Cases and Rates per 100,000 pop. by Region NYS excl. NYC, 2012-2021 (cont.)

	Nassau/Suffolk		Northeastern NY/ Albany		Western NY/ Buffalo		Statewide Total	
	No. Cases	Rate per 100,000	No. Cases	Rate per 100,000	No. Cases	Rate per 100,000	No. Cases	Rate per 100,000
2012	1,256	43.0	803	53.2	872	56.1	6,886	60.5
2013	1,325	45.4	824	54.6	984	63.3	6,889	60.5
2014	1,629	55.8	993	65.8	1,404	90.3	8,812	77.4
2015	1,500	51.4	1,055	69.9	1,449	93.2	8,564	75.2
2016	1,556	53.3	922	61.1	1,584	101.9	8,321	73.1
2017	1,404	48.1	1,081	71.6	1,510	97.1	8,213	72.2
2018	1,182	40.5	885	58.6	1,226	78.8	6,911	60.7
2019	980	33.6	787	52.1	794	51.1	5,661	49.7
2020	664	22.8	643	42.6	618	39.7	4,126	36.3
2021	605	20.7	608	40.3	685	44.0	4,249	37.3

Notes. The acute and chronic hepatitis C case definition has changed in 2016 and 2020. Cases among persons incarcerated in the Department of Corrections and Community Supervision (DOCCS) are excluded from regional case counts. Comparisons across years should be interpreted with caution. Denominators for rates per 100,000 use US Census 2020 data for comparison purposes. See Variables Definition on page 8 and About Data on this Report on page 9

Table 2.6: Hepatitis C, Newly Reported Cases and Rates per 100,000 by County, NYS excl NYC 2021

County	No. of Cases	2020 Population	Rate per 100,000 pop	County	No. of Cases	2020 Population	Rate per 100,000 pop
Albany	127	314,368	40.4	Nassau	231	1,393,978	16.6
Allegany	10	46,373	21.6	Niagara	107	212,252	50.4
Broome	128	198,199	64.6	Oneida	130	231,695	56.1
Cattaraugus	44	76,907	57.2	Onondaga	276	475,653	58.0
Cayuga	70	76,095	92.0	Ontario	19	112,475	16.9
Chautauqua	111	127,424	87.1	Orange	181	401,322	45.1
Chemung	32	83,882	38.1	Orleans	16	40,236	39.8
Chenango	22	47,073	46.7	Oswego	83	117,351	70.7
Clinton	35	79,715	43.9	Otsego	21	58,351	36.0
Columbia	30	61,550	48.7	Putnam	29	97,660	29.7
Cortland	28	46,723	59.9	Rensselaer	64	160,923	39.8
Delaware	15	44,186	33.9	Rockland	69	338,121	20.4
Dutchess	136	295,742	46.0	Saratoga	47	235,689	19.9
Erie	368	953,254	38.6	Schenectady	65	157,861	41.2
Essex	30	37,336	80.4	Schoharie	12	29,720	40.4
Franklin	17	47,527	35.8	Schuyler	8	17,857	44.8
Fulton	25	53,160	47.0	Seneca	17	33,715	50.4
Genesee	21	58,258	36.0	St. Lawrence	65	108,311	60.0
Greene	26	47,890	54.3	Steuben	34	93,363	36.4
Hamilton	1	5,078	19.7	Suffolk	374	1,524,099	24.5
Herkimer	27	60,007	45.0	Sullivan	56	78,643	71.2
Jefferson	67	116,134	57.7	Tioga	21	48,355	43.4
Lewis	9	26,538	33.9	Tompkins	34	105,404	32.3
Livingston	23	61,699	37.3	Ulster	141	181,687	77.6
Madison	23	67,890	33.9	Warren	36	65,638	54.8
Monroe	171	758,554	22.5	Washington	20	61,143	32.7
Montgomery	37	49,433	74.8	Wayne	26	91,103	28.5
				Westchester	216	1,003,245	21.5
				Wyoming	8	40,401	19.8
				Yates	2	24,709	8.1

Notes. Case counts by county exclude cases in persons incarcerated in the Department of Corrections and Community Supervision (DOCCS). Denominators for rates per 100,000 use US Census 2020 data for comparison purposes. See Variables Definition on page 8 and About Data on this Report on page 9.

Table 2.7a: Hepatitis C, Newly Reported Acute Cases by Risk Factor, NYS excl. NYC, 2021

	Yes		No		Unknown		total
	No. of Cases	Percent	No. of Cases	Percent	No. of Cases	Percent	
Injection drug use	42	25.0%	23	13.7%	103	61.3%	168
Other, non-injection drug use	39	23.2%	24	14.3%	105	62.5%	168
Close contact with person with hepatitis C	19	11.3%	29	17.3%	120	71.4%	168
Recently incarcerated	29	17.3%	32	19.0%	107	63.7%	168
Tattoo or piercing	11	6.5%	0	0.0%	157	93.5%	168
Treated for sexually transmitted infection	6	3.6%	32	19.0%	130	77.4%	168
> 1 sex partner	7	4.2%	16	9.5%	145	86.3%	168
MSM (Men who have sex with men)	3	2.5%	23	18.9%	96	78.7%	122
Underwent hemodialysis	1	0.6%	62	36.9%	105	62.5%	168
Worked in public safety/ medical field	2	1.2%	44	26.2%	122	72.6%	168
Diabetic	6	3.6%	59	35.1%	103	61.3%	168

Note. MSM presents cases with sex at birth reported as male and cases that report having at least 1 male as a sexual partner. See Variables Definition on page 8 and About Data on this Report on page 9. Risk factors for acute cases are collected for 12 months prior to the positive test.

Table 2.7b: Newly Reported Chronic Hepatitis C, Risk Factors, NYS excl. NYC, 2021

	Yes		No		Unknown		Total
	No. of Cases	Percent	No. of Cases	Percent	No. of Cases	Percent	
Injection drug use	667	16.4%	239	5.9%	3,167	77.8%	4,073
Other, non-injection drug use	602	14.8%	223	5.5%	3,248	79.7%	4,073
Close contact with person who has hepatitis C	277	6.8%	258	6.3%	3,538	86.9%	4,073
Ever incarcerated	393	9.6%	342	8.4%	3,338	82.0%	4,073
Treated for sexually transmitted infection	139	3.4%	310	7.6%	3,624	89.0%	4,073
MSM (Men who have sex with men)	24	1.0%	228	9.1%	2,256	90.0%	2,508
Underwent hemodialysis	13	0.3%	883	21.7%	3,177	78.0%	4,073
Transfusion, transplant, clotting factor recipient*	29	0.7%	583	14.3%	3,461	85.0%	4,073
Diabetic	113	2.8%	836	20.5%	3,124	76.7%	4,073

Note. MSM presents cases with sex at birth reported as male and cases that report having at least 1 male as a sexual partner. See Variables Definition on page 8 and About Data on this Report on page 9. Risk factors for chronic cases are collected for the individuals' life history.

Table 2.8: Hepatitis C, Newly Reported Cases in Females and Females in Reproductive Age, NYS excl. NYC, 2012-2021

	Total No. of Cases	No. of Cases in females	No. Cases in Females of Reproductive Age 15-44	Percent of Cases of Reproductive Age of Females
2012	6,886	2,531	1,096	43.3%
2013	6,889	2,566	1,312	51.1%
2014	8,812	3,360	1,614	48.0%
2015	8,564	3,255	1,843	56.6%
2016	8,321	3,257	1,923	59.0%
2017	8,213	3,199	1,918	60.0%
2018	6,911	2,642	1,650	62.5%
2019	5,661	2,119	1,326	62.6%
2020	4,126	1,504	939	62.4%
2021	4,249	1,611	947	58.8%

Note. Cases are presented by sex at birth. Gender identity information is not presented in this report. See Variables Definition on page 8 and About Data on this Report on page 9.

Table 2.9: Hepatitis C, Newly Reported Cases in Persons under 40 years of Age and Persons born between 1946-1964, NYS excl. NYC, 2012-2021

	Count cases age at time of diagnosis <40	Percent of total cases age at time of diagnosis <40	Count cases Born between 1946 - 1964	Percent of total cases Born between 1946 - 1964
2012	2,229	32.4%	3,418	49.6%
2013	2,706	39.3%	2,979	43.2%
2014	3,450	39.2%	3,894	44.2%
2015	3,947	46.1%	3,161	36.9%
2016	4,074	49.0%	2,705	32.5%
2017	4,179	50.9%	2,470	30.1%
2018	3,544	51.3%	1,915	27.7%
2019	2,876	50.8%	1,491	26.3%
2020	2,076	50.3%	1,035	25.1%
2021	2,030	47.8%	1,083	25.5%

Note. Cases born between 1946 – 1964 represent ‘Baby Boomers’.