Chronic Viral Hepatitis B Surveillance Report, 2023

SAN FRANCISCO, CALIFORNIA

San Francisco Department of Public Health
Viral Hepatitis Surveillance Program
Applied Research, Community Health Epidemiology and Surveillance Branch (ARCHES)
Population Health Division
25 Van Ness Avenue, Suite 500
San Francisco, CA 94102

INTRODUCTION

The Chronic Viral Hepatitis B Surveillance Report for 2023 presents data collected by the San Francisco Department of Public Health's (SFDPH) Viral Hepatitis Surveillance Program from January 1, 2021 through December 31, 2023 on persons who have chronic hepatitis B infection. SFDPH receives confidential disease reports containing basic demographic information from laboratories and providers, as mandated by state regulation. This basic information comprises core surveillance for chronic hepatitis B infection. This report provides an overview of hepatitis B infection in San Francisco based on surveillance data, vital records, and immunization registry data.

ACKNOWLEDGEMENTS

This report summarizes information collected by the Viral Hepatitis Surveillance Program, which includes Aminah Habib, MPH, Amy Nishimura, MS, MPH, Melissa Ongpin, MPH, Victoria Osasah, MPH, Melissa Sanchez, PhD, MA, and Mala Yekanath. The report was written by Melissa Ongpin, MPH, with contributions from Amy Nishimura, MS, MPH and Melissa Sanchez, PhD, MA. The data were curated and analyzed by Melissa Ongpin, MPH. The geographic analysis was performed by Namson Ngo-Le, MS. We are grateful to Rachel Grinstein, SFDPH Viral Hepatitis Coordinator, as well as Richard So, MPH, MPA and the San Francisco Hep B Free Campaign, for their support and contributions. Most of all, we thank the laboratorians, clinicians, and persons living with chronic hepatitis B who provided the information that made this report possible.

SUGGESTED CITATION

Suggested Citation:

Viral Hepatitis Surveillance Program, Applied Research, Community Health Epidemiology and Surveillance Branch (ARCHES), Population Health Division. *Chronic Viral Hepatitis B Surveillance Report, 2023, San Francisco, California* [Internet]. San Francisco Department of Public Health; June 2025. 18 pp. Available from: https://www.sf.gov/resource/2024/viral-hepatitis-reports

CONTENTS

OVERVIEW OF HEPATITIS B INFECTION

Hepatitis B virus (HBV) causes a liver infection that can range from a mild illness lasting a few weeks to a serious, lifelong illness. HBV may be transmitted through blood, semen, or other body fluids from an infected person. Exposure can occur through sexual contact, needle sharing, needlestick injuries, or sharing items that may be contaminated with blood (e.g., razors, toothbrushes). HBV can also be transmitted from an infected birth parent to their baby during birth, or rarely during pregnancy, unless hepatitis B immunoglobulin and vaccine are given to the infant promptly at birth, followed by completion of a full hepatitis B vaccine series according to the recommendations by the Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Immunization Practices (ACIP).[1,2]

Acute HBV infection may be asymptomatic or may cause an illness that can last up to six months. Symptoms of acute infection include nausea, vomiting, abdominal pain, jaundice, dark-colored urine, and light-colored stools. Approximately 95% of adults can resolve the infection on their own and are immune to reinfection.[1] But approximately 90% of infected infants and 30% of children infected <6 years of age will develop chronic HBV. Most people with chronic HBV are asymptomatic but are at increased risk of developing severe liver complications such as cirrhosis, liver failure, and liver cancer. Of individuals chronically infected with HBV during and after childhood, approximately 25% and 15%, respectively, die prematurely from cirrhosis or liver cancer.

In March 2023, the CDC updated guidelines for HBV screening and testing.[3] Screening for HBV is now recommended for:

- all adults, 18 years and older, at least once in their lifetime using a triple panel test (hepatitis B surface antigen, hepatitis B surface antibody, and total antibody to hepatitis B core antigen) AND
- all pregnant people during each pregnancy, regardless of vaccination status or testing history, for hepatitis B surface antigen (HBsAg).

HBV testing is recommended for people at an increased risk for HBV exposure including:

- people born in regions where HBV prevalence is >2%
- people with a history of injection drug use
- men who have sex with men (MSM)
- people with a history of incarceration
- infants born to people who test positive for HBsAg
- household contacts, sexual partners, and/or needle-sharing partners of people with HBV infection
- United States-born people who were not vaccinated as infants and whose parents were born in regions with high HBV prevalence
- people with elevated liver enzymes
- people on long-term dialysis
- people with a history of hepatitis C infection
- people with HIV infection.

HBV infection is vaccine-preventable; hepatitis B vaccines have been shown to be safe and efficacious since their introduction in 1982.[4] The ACIP recommends universal hepatitis B vaccination among adults 19–59 years, adults 60 years and older with risk factors for HBV, all infants, and unvaccinated children less than 19 years old.[4,5] Antiviral medications are available for people living with chronic HBV. Although treatment is not considered curative, linkage to care after diagnosis is critical for regular monitoring and treatment to prevent liver damage and cancer and to reduce morbidity and mortality.[1]

For more information about HBV, visit: **cdc.gov/hepatitis-b/**

CHRONIC HEPATITIS B CASES IN SAN FRANCISCO, 2023

CORE SURVEILLANCE DATA

Every year, SFDPH tracks the number of hepatitis B lab reports and people with chronic hepatitis B. Data presented in this section represent all persons who met laboratory criteria for probable or confirmed chronic hepatitis B infections with at least one positive HBV test reported to SFDPH in 2023.

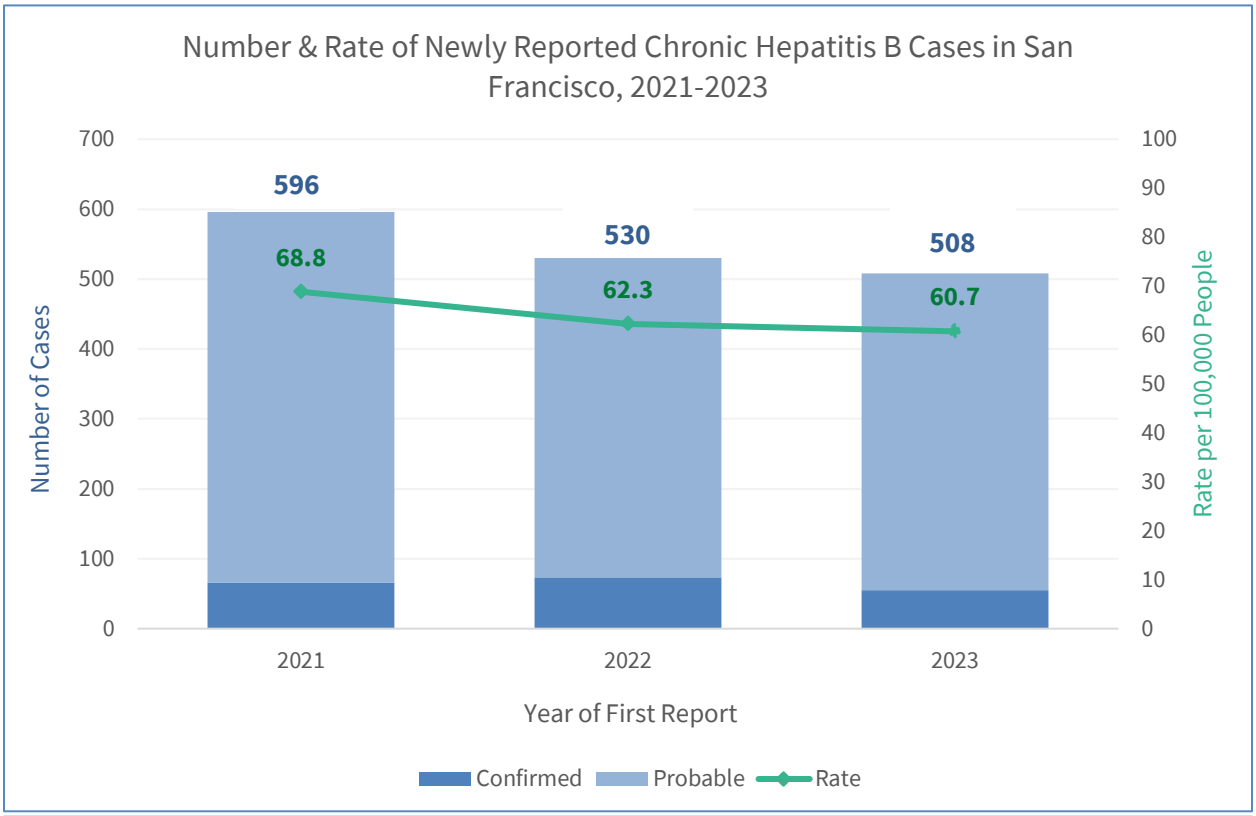
From January 1, 2023 through December 31, 2023

SFDPH received over **11,533** positive HBV laboratory reports → Reports were from **6,455** individuals with probable or confirmed chronic hepatitis B (all reported cases) → **508 (7.9%)** of these were newly reported cases

Figure 1. Number & rate of newly reported chronic hepatitis B cases, 2021-2023

Number of newly reported chronic hepatitis B cases in San Francisco in 2023: **508**

Rate of newly reported chronic hepatitis B cases in San Francisco in 2023: **60.7** per 100,000 people



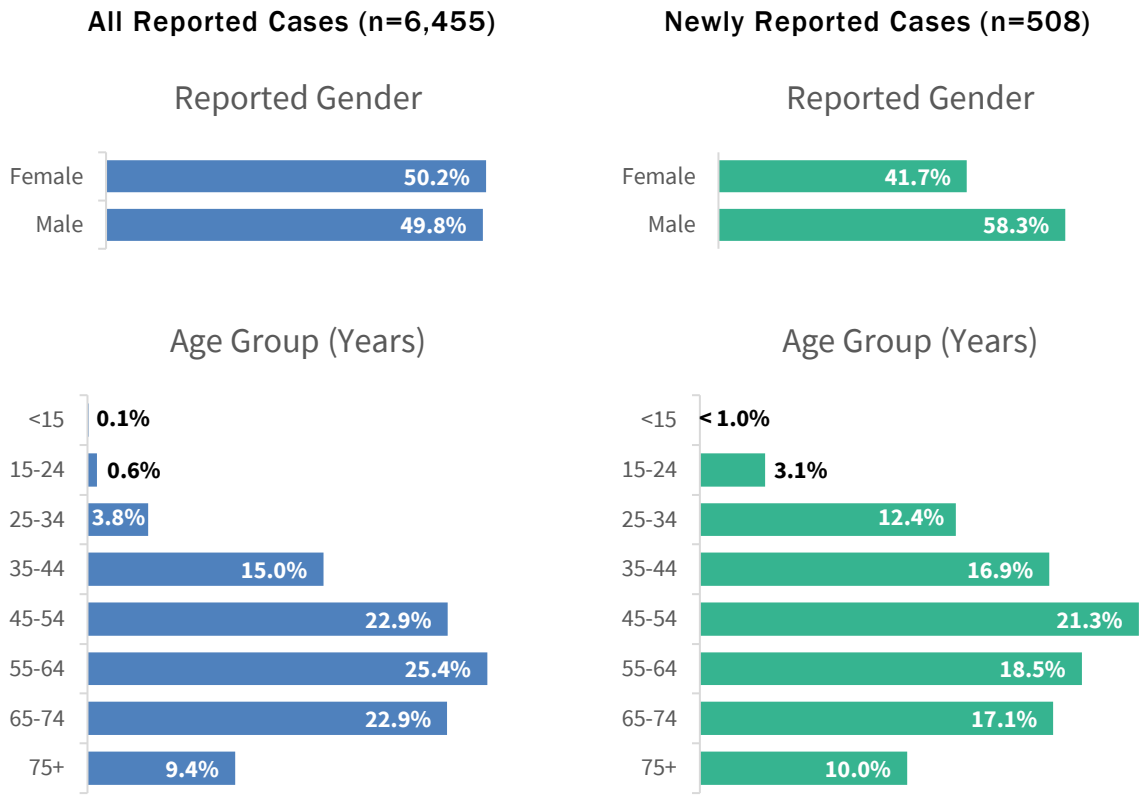
Note: Newly reported cases were reported to SFDPH with chronic hepatitis B for the first time with no previously received positive HBV laboratory report; they do not represent the number of incident or new infections (see Data Limitations).

Per the CDC/Council of State and Territorial Epidemiologists (CSTE) 2012 case definition, cases with a single positive hepatitis B surface antigen (HBsAg), positive HBV DNA, or positive hepatitis B e antigen (HBeAg) are considered a probable chronic hepatitis B case. In 2023, there were **469 (7.3%) probable** HBV cases among all reported cases and **453 (89.2%)** among newly reported cases.

A **confirmed** chronic hepatitis B case: a) has a single positive HBsAg, positive HBV DNA, or positive HBeAg test with a negative IgM antibody to hepatitis B core antigen (IgM anti-HBc) or, b) tests positive for HBsAg, HBV DNA, or HBeAg two times at least six months apart. Confirmed chronic hepatitis B cases comprised the remaining **5986 (92.7%)** and **55 (10.8%)** of all reported cases and newly reported cases in 2023, respectively.

Sex and Age

Figure 2. Reported gender & age group of all & newly reported chronic hepatitis B cases, 2023



Among chronic hepatitis B cases reported in 2023, **males** comprised **49.8%** of all reported cases but **58.3%** of newly reported cases.

In 2023, the age groups with the highest proportion of cases were **55-64 years** (**25.4%**) **among all reported cases** and **45-54 years** (**21.3%**) **among newly reported cases**.

>>> For more information & data on HBV cases in 2023, see Technical Notes & Table 1.

Figure 3. Reported gender & age distribution of all reported chronic hepatitis B cases, 2023

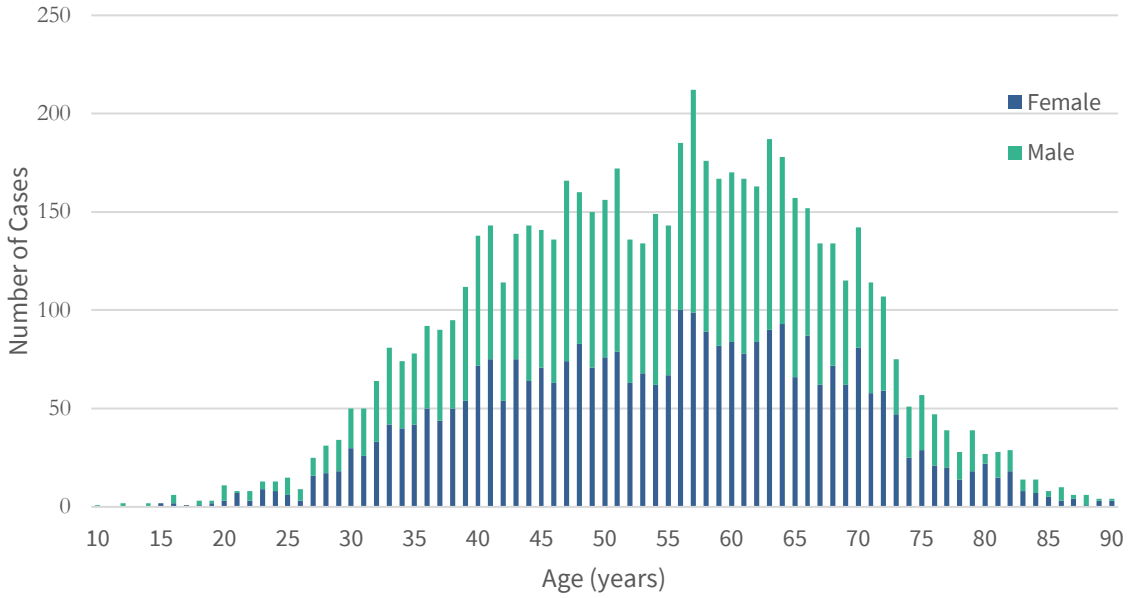
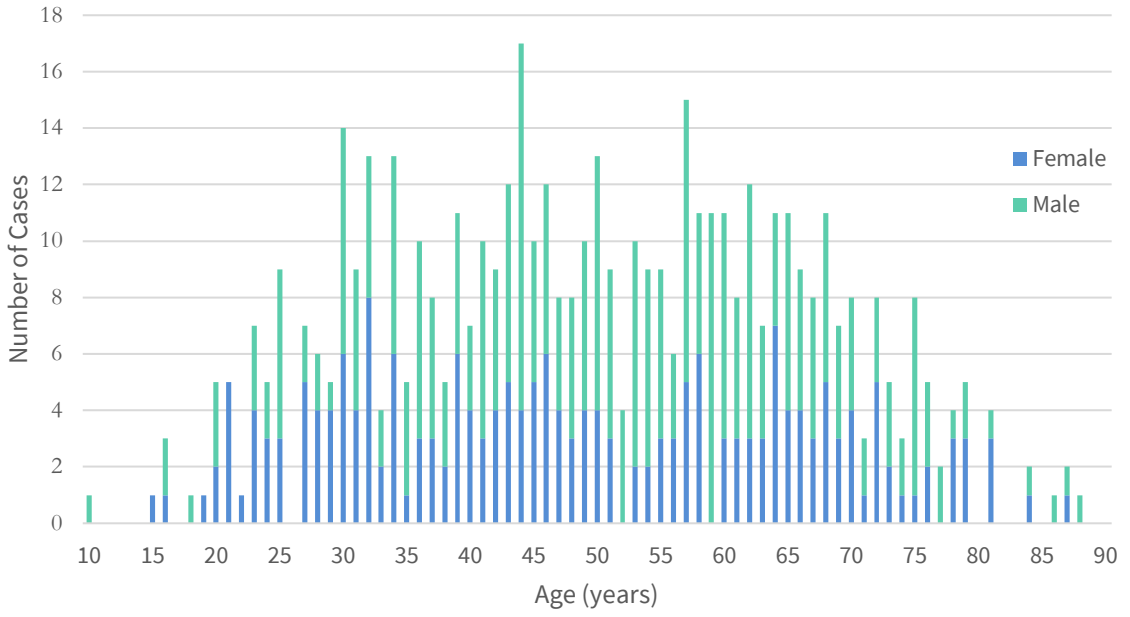


Figure 4. Reported gender & age distribution of newly reported chronic hepatitis B cases, 2023



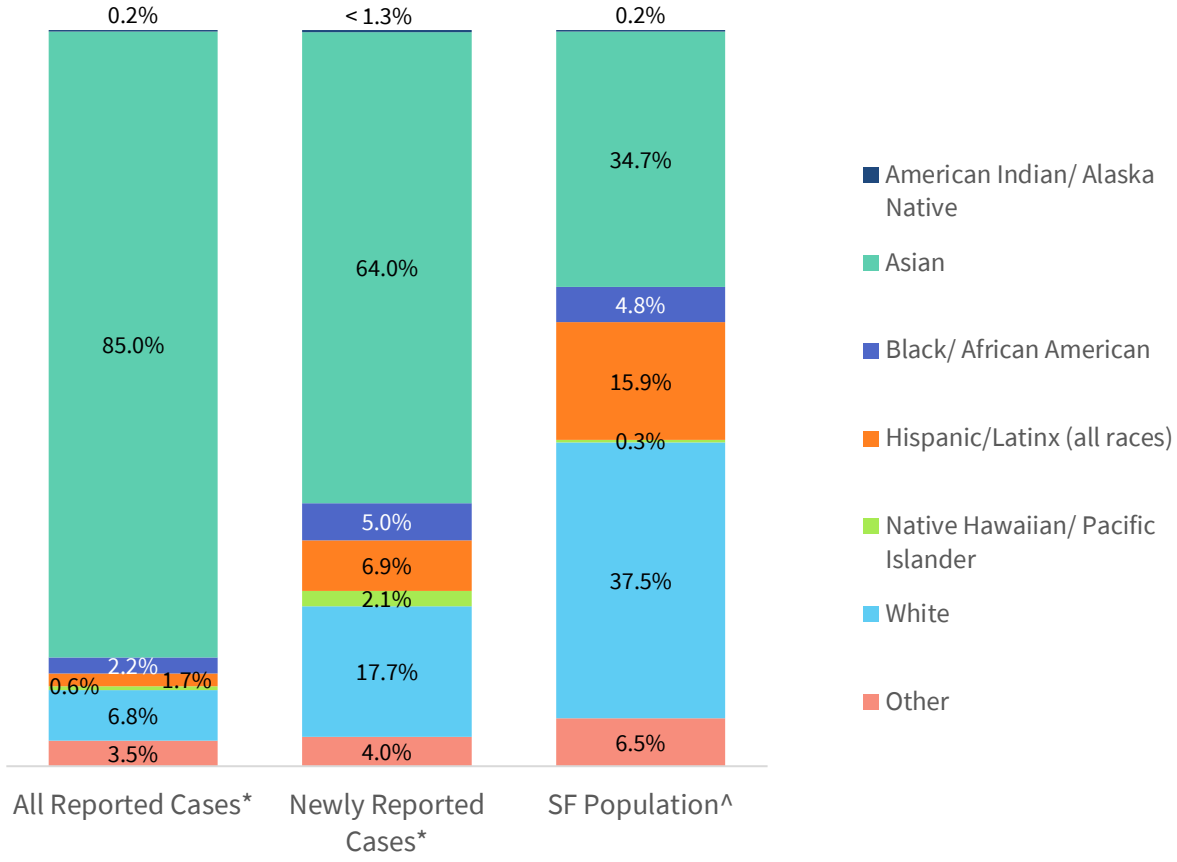
Note: These figures show different y axes when showing the number of cases.

Figures 3 & 4 highlight the difference in ages in 2023 between **all reported cases** (top), which are **more likely to be older (≥50 years old)**, and **newly reported cases** (bottom), which are **more likely to be younger (<50 years old)**.

>>> For more information & data on HBV cases in 2023, see Technical Notes & Table 1.

Race/Ethnicity

Figure 5. Race/ethnicity of all & newly reported chronic hepatitis B cases and the SF population, 2023



***** Race/ethnicity data is missing for 596/6455 (9.2%) of all reported and 130/508 (25.6%) of newly reported cases in 2023.
^ San Francisco Population data source: American Community Survey 5-year estimate 2019-2023[6]

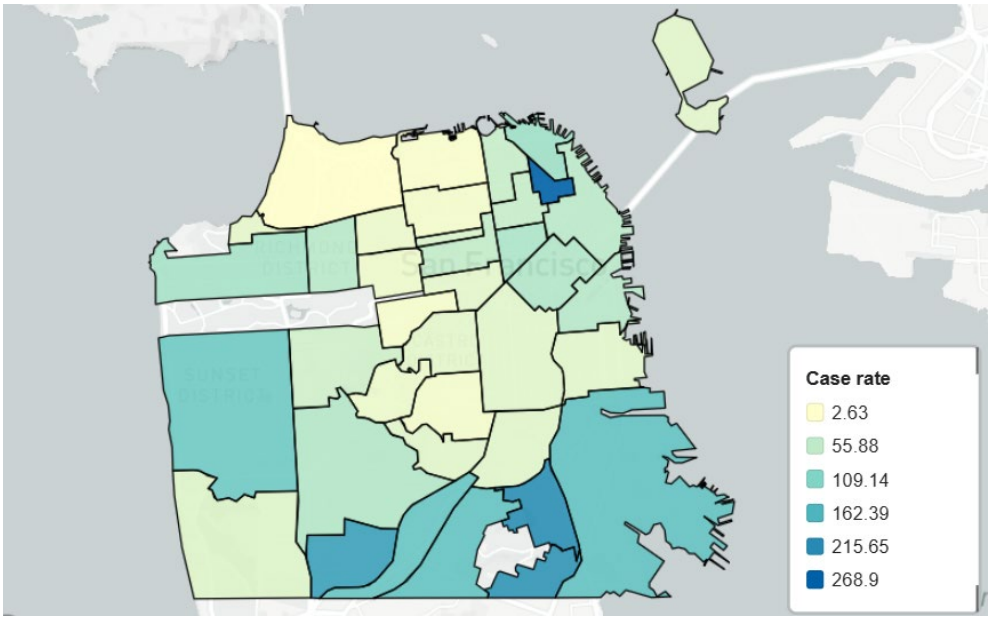
In 2023, 85.0% of all reported cases and 64.0% of newly reported cases were **Asian**, while Asians comprised 34.7% of the SF Population.

>>> For more information & data on HBV cases in 2023, see Technical Notes & Table 1.

Geographic Distribution

To further understand trends of all reported and newly reported cases of chronic hepatitis B in 2023, the figures below map the number of cases by neighborhood, per 10,000 population. Neighborhoods with a higher case rate are darker blue while those with a lower case rate are light yellow.

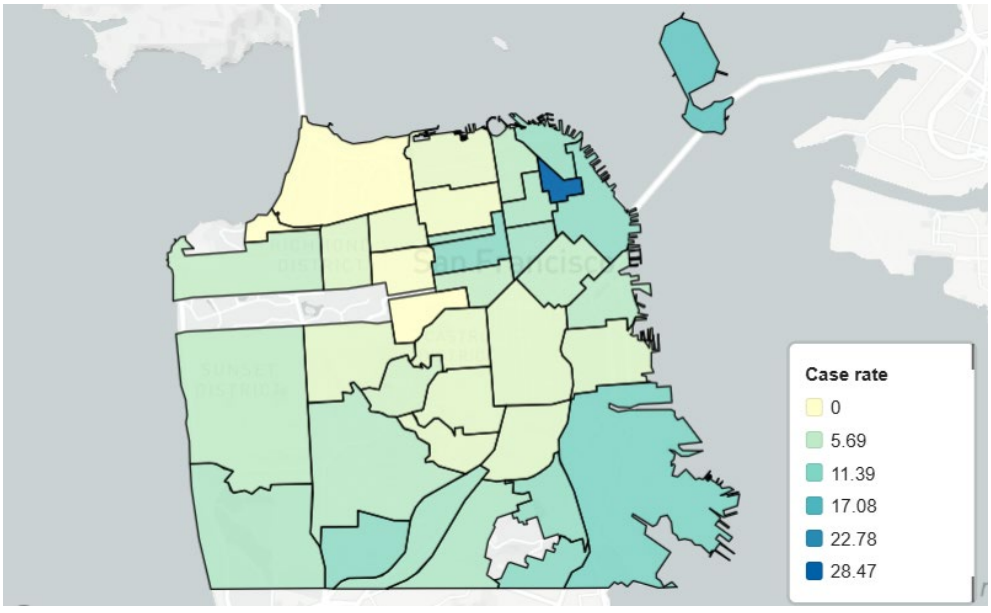
Figure 6. All reported chronic hepatitis B cases in San Francisco by neighborhood, 2023*



Neighborhoods with highest rates of all reported chronic hepatitis B cases (per 10,000 residents):

1. Chinatown (268.9)
2. Portola (210.8)
3. Visitacion Valley (203.9)

Figure 7. Newly reported chronic hepatitis B cases in San Francisco by neighborhood, 2023*



Neighborhoods with highest rates of newly reported chronic hepatitis B cases (per 10,000 residents):

1. Chinatown (28.5)
2. Bayview Hunters Point (11.3)
3. Western Addition & Visitacion Valley (10.0)

**Notes:*

- 102/6455 (1.6%) of all reported and 25/508 (4.9%) of newly reported cases could not be geocoded and are not shown.
- Neighborhoods with a population fewer than 1,000 people are not included and are greyed out.
- San Francisco Population data source: American Community Survey 2019-2023 5-year estimate .[6]
- For all reported and newly reported case counts and rates for all neighborhoods in 2023, see Tables 2 & 3.

HEPATITIS B VACCINE BIRTH DOSE

To help prevent hepatitis B infection, the ACIP recommends universal hepatitis B vaccination for all infants, with the initial dose given at birth.[2]

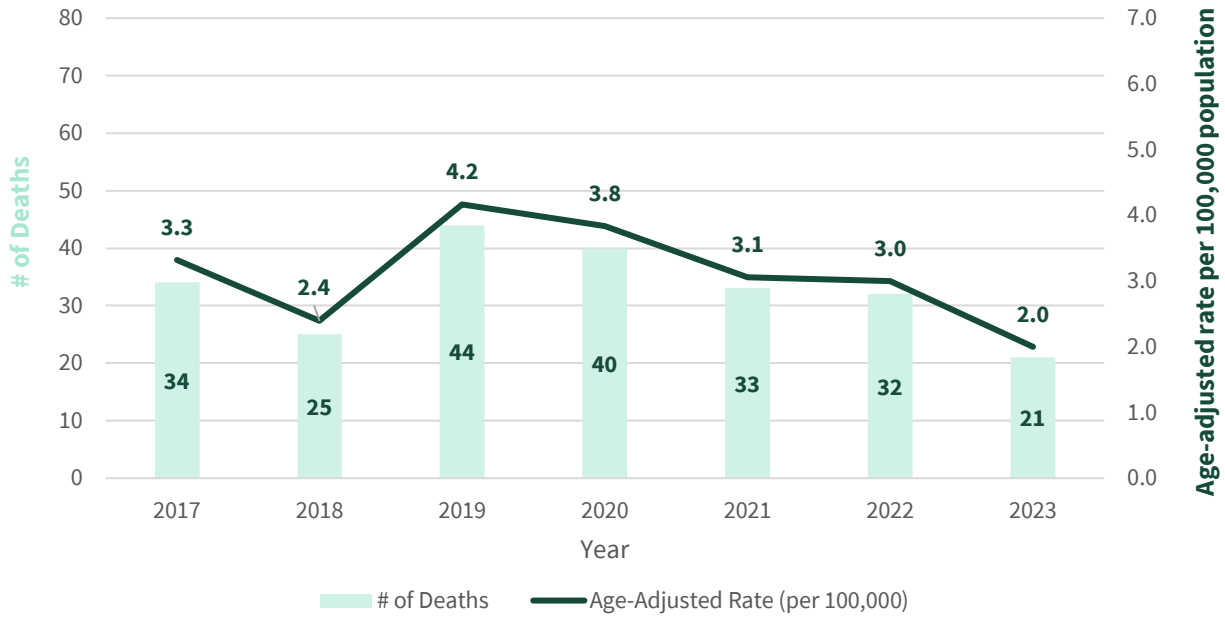
Percentage of San Francisco newborns in 2023 who received the HBV vaccine birth dose within 1 day after birth **84.7%**

>>> For more information on the hepatitis B vaccine birth dose, see Technical Notes.

HEPATITIS B ASSOCIATED DEATHS

Hepatitis B is associated with increased risk for premature death. Age-adjusted death rates among San Francisco decedents with HBV listed as one of the multiple causes of death in death certificate data are presented in this section.

Figure 8. Age-adjusted death rates with hepatitis B listed as a cause of death in San Francisco, 2017-2023



In 2023, the number of HBV-associated deaths was **21** and the age-adjusted HBV-associated death rate per 100,000 people was **2.0**.

>>> For more information on hepatitis B associated deaths, see Technical Notes.

DISCUSSION

Based on an evaluation of the National Health and Nutrition Examination Survey (NHANES), the estimated prevalence of chronic hepatitis B among persons aged 6 years or older in the U.S. is currently 0.2% (reported from 2017 to March 2020). Of those who were identified with HBV infection, nearly half (48.4%) were non-Hispanic Asians and almost three-quarters (73.6%) were born outside the United States.[7] With a prevalence estimate nearly ten times higher than the national estimate for the overall population (1.9%), an estimated 320,000 persons of non-Hispanic Asian race are living with chronic hepatitis B in the U.S.[7]

The core surveillance data presented in this report do not measure prevalence; however, findings from a study of HBsAg prevalence in selected California counties estimated that nearly 15,400 San Francisco residents had chronic hepatitis B (1.78% prevalence), the highest prevalence of the 15 counties included in the analysis.[8] The study also found that, in the San Francisco Bay Area, Asian/Pacific Islanders comprised 88.5% of the HBsAg-positive cases; of which, 84.0% were foreign born.[8] This is consistent with San Francisco's chronic HBV core surveillance data, which showed that Asians were disproportionately affected by HBV, comprising 85.0% of all reported and 64.0% of newly reported HBV-infected cases in 2023 but only 34.7% of the overall San Francisco population.[6] This disparity is additionally highlighted by the geographic analysis of the HBV surveillance data; looking at HBV case rates by neighborhood throughout San Francisco, where the Chinatown neighborhood shows the highest rate of reported HBV cases in San Francisco.

The fact that Asians bear the largest burden of chronic HBV infection in San Francisco continues to highlight the need to provide culturally and linguistically appropriate public and patient education about HBV prevention throughout the Asian and Pacific Islander (API) communities. Efforts to raise awareness about HBV prevention and treatment in the API and clinical communities have been led by SF Hep B Free, a citywide campaign that began in 2007 to promote HBV testing and vaccination of all API persons in San Francisco.[9] Since its inception, SF Hep B Free's mission has been to work within the community and among health care providers to increase hepatitis B awareness and education, increase access to affordable testing and vaccination, and provide linkage to care for chronically affected individuals. Supported by their network of community partners representing healthcare systems, elected officials, community advocacy groups, local businesses, physicians, and mainstream and ethnic media outlets, SF Hep B Free's advocacy of HBV awareness has also resulted in legislative successes such as: the passage of Assembly Bill 789[10], a law requiring primary care providers to offer hepatitis B and C testing and linkage to care for patients; and, in collaboration with the End the Epidemics Coalition, securing $8 million in California State funds dedicated for adult chronic hepatitis B. SF Hep B Free continue their efforts in the fight against chronic HBV by conducting provider education, community education and screening events, and extensive outreach to the Pacific Islander community.

Overall, rates of newly reported chronic HBV cases in San Francisco decreased from 2021 to 2023 from 68.8 to 60.7 cases per 100,000 people but remain considerably above the 2023 national rate of 6.1 cases

per 100,000 people.[11] The decrease in the number of newly reported cases isn't necessarily an indication of reduced disease but may reflect changes in testing or migration into and out of San Francisco. 32.5% of newly reported cases were 15-44 years of age, an age group in which cases may be more likely to transmit HBV through sexual activity and birthing parents may transmit HBV perinatally. Demographic characteristics between all reported and newly reported cases in San Francisco shifted slightly, with changes in the age and race/ethnicity distribution and a higher proportion of males reported among newly reported (58.3%) compared to all reported cases (49.8%).

One of the most effective public health strategies to combat HBV is the hepatitis B vaccine. The CDC/ACIP recommends universal hepatitis B vaccination for all infants, ideally with the first dose given within 24 hours of birth for medically stable newborns.[2] The U.S. Department of Health and Human Services (HHS) established a national goal to increase the rate of the hepatitis B 'birth dose' vaccination to 75% by 2025.[12] In 2023, 84.7% of San Francisco newborns received the HBV vaccine birth dose within 1 day after birth, exceeding the HHS 2025 national goal.

Chronic hepatitis B cases die at younger ages and at higher rates overall and from liver-related causes compared to the general population.[13] From 2017 to 2023, the HBV-associated age-adjusted death rate in San Francisco decreased overall from 3.3 to 2.0 deaths per 100,000 people. This is the lowest in San Francisco during that time period and meets the HHS 2025 national goal of reducing the rates of HBV-related deaths by 20%.[12] This is still substantially higher than the 2023 national HBV age-adjusted death rate of 0.44 deaths per 100,000 people.[11] Sustained decreases in hepatitis B associated deaths in San Francisco will depend on continuing effective testing and linkage to appropriate care and treatment.

TECHNICAL NOTES

Listed below are the technical notes for the HBV surveillance data in this report.

- **Analyses:** SAS version 9.4 and Microsoft Excel were used for descriptive and statistical analyses, tables, and figures, unless otherwise noted.
- **Case counts less than five:** All case counts less than five are displayed as "<5" and corresponding percentages or rates are displayed as less than the corresponding rate or percentage for five cases.
- **Rates:** Case rates for newly reported chronic hepatitis B cases from 2021-2023 (figure 1) were calculated as the number of newly reported chronic HBV cases reported to SFDPH for a given year divided by the San Francisco population multiplied by 100,000. Case rates for the geographic distribution analysis (figures 6 & 7; tables 2 & 3) were calculated as the number of chronic HBV cases reported to SFDPH in 2023 divided by the San Francisco population multiplied by 10,000. Death rates (figure 8) are age-adjusted per 100,000, weighted to the U.S. 2000 standard population. San Francisco population estimates used for denominators were from the American Community Survey (ACS) 5-year estimates[6]. Case rates in this report are not prevalence rates or incidence rates (see Data Limitations).
- **Total Percentages:** Percentages may not total 100 due to rounding.
- **Confidentiality:** Data collected and summarized in this report is kept strictly confidential. SFDPH is authorized by law to collect information on HBV infections for the purpose of controlling or preventing disease including: the reporting of disease, the conduct of public health surveillance, public health investigation and public health intervention.[14] SFDPH employees have a legal and ethical responsibility to protect the confidentiality of protected health information and to use that information only in the performance of their jobs.
- **Changes in Data from Previous Reports:** Changes in data in this report from previous reports may be due to delays in reporting, changes in definitions or methodology, or corrections to the data, such as the removal of duplicate records.

CORE SURVEILLANCE DATA NOTES

- **Persons included in the 2023 Core Surveillance:** Core surveillance data in 2023 include all persons who met laboratory criteria for probable or confirmed chronic hepatitis B infections with at least one positive HBV test result (HBsAg, HBeAg, or HBV DNA) reported to SFDPH from January 1, 2023 – December 31, 2023.
- **Laboratory Results Reporting and Data Storage:** Laboratorians, clinicians, and other mandated reporters report positive HBV test results to the SFDPH in compliance with Title 17, California Code of Regulations (CCR), Sections 2500 and 2505. [15] According to the California Health and Safety Code (HSC) Section 120130, laboratories are required to submit lab results electronically to the state electronic reporting system. [16] Laboratories and providers are required to report test results, patient identifiers (e.g., name, date of birth, gender, address,

phone number, medical record number) and provider identifiers (e.g., name, facility, address).[16] SFDPH receives and stores the reported information in a secure, electronic, person-based database. Laboratory data are quality-checked and deduplicated on a routine basis.

- **CDC/CSTE Chronic Hepatitis B Case Definition:** The 2012 CDC/CSTE laboratory criteria for diagnosis are applied to HBV test results to identify persons with probable and/or confirmed chronic hepatitis B. CDC/CSTE defines a *probable* case of chronic hepatitis B as a person with a single positive HBsAg, HBV DNA, or HBeAg and does not meet the acute hepatitis B case definition. A *confirmed* case of chronic hepatitis B is a person who: a) has a single positive HBsAg, HBV DNA, or HBeAg test with a negative IgM antibody to hepatitis B core antigen (IgM anti-HBc) or, b) tests positive for HBsAg, HBV DNA, or HBeAg two times at least six months apart.[17] For this report, most confirmed cases of chronic hepatitis B are defined by the latter definition requiring two positive laboratory results six months apart; negative results (e.g. negative IgM anti-HBc) are not mandated and are rarely reported to the health department.
- **Newly Reported Cases:** Newly reported cases are persons reported to SFDPH who met laboratory criteria for probable or confirmed chronic hepatitis B for the first time and for whom no positive HBV laboratory report had previously been received.
- **Reported Gender:** Gender/sex is required to be reported with lab results. However, laboratories only report one field for sex and gender, with no way to determine whether sex assigned at birth or gender identity is being reported. In this report, reported gender is the gender/sex as reported by laboratories/facilities.
- **Age:** Age is defined as the age of the person at the time their first positive HBV result was received by SFDPH in 2023.
- **Race/Ethnicity:** Race/ethnicity is obtained from laboratory reports and classified as American Indian/Alaska Native, Asian, Black/African American, Hispanic/Latinx, Native Hawaiian/Pacific Islander, White, or Other. Hispanic/Latinx ethnicity includes all persons of Hispanic or Latinx ethnicity regardless of race; all other race categories do not include persons of Hispanic or Latinx ethnicity. Other includes multi-race categories or those reported with race 'Other' in lab reports. The number and percentage of persons for whom race/ethnicity is missing or unknown is shown in the footnotes of tables/figures.
- **Addresses and Geocoding:** Only individuals in the hepatitis registry with a recent San Francisco address or whose address is unknown/missing are included in this report. Address information was geocoded using ArcGIS Pro to identify latitude and longitude and then matched to San Francisco neighborhoods using R. Cases that could not be geocoded due to missing or unknown residential address information are excluded from the geographic distribution analysis. The number and percentage of persons for whom address is unknown is shown in table/figure footnotes. Data for neighborhoods with a case count less than five or with a population of <1000 are not disclosed.

HEPATITIS B VACCINE BIRTH DOSE NOTES

- **San Francisco newborns who received the hepatitis B vaccine birth dose:** Hepatitis B vaccination data for San Francisco newborns are from the California Immunization Registry (CAIR). Per Assembly Bill (AB) 1797, all California vaccine providers are required to report immunization data to CAIR as of January 1, 2023.[18]
- **San Francisco newborns in 2023:** The number of San Francisco resident newborns in 2023 used for the denominator for the HBV vaccine birth dose percentage is from the CDPH's Center for Health Statistics and Informatics open data portal live birth profiles.[19]
- **Underreporting of vaccinations:** Vaccine doses may be underreported to CAIR since it may have taken some time for submitters to be compliant to AB 1797 or patients may have moved out of California.[20]

HEPATITIS B ASSOCIATED DEATHS NOTES

- **Hepatitis B associated deaths:** The death analysis includes all decedents from 2017-2023 reported to the California Department of Public Health (CDPH)'s vital records with a San Francisco address and with HBV listed as one of the multiple causes of death.
- **Cause of Death:** Hepatitis B associated causes of death were determined based on the International Classification of Diseases, 10th Revision (ICD-10) codes.[21] Decedents with any of the following ICD-10 codes listed as one of the multiple causes of death are included in the analysis: B16, B16.1, B16.2, B16.9, B17.0, B18.0, and B18.1.
- **Interpretation of HBV deaths:** Death rates should be interpreted with caution due to the underreporting of HBV as a cause of death, [13] the impact of the COVID-19 pandemic on overall mortality, and the possibility of misclassification of ICD-10 codes on death records.

DATA LIMITATIONS

1. Surveillance data do not measure prevalence: The data presented are not an estimate of the prevalence of chronic HBV infection in San Francisco residents. Prevalence cannot be calculated because some persons infected with HBV are not tested, and others were tested before consistent reporting to SFDPH was established. In addition, some persons who were tested anonymously may not have been reported to SFDPH. Finally, the data presented may include persons who have left San Francisco or may have died after they were reported to SFDPH.

2. Surveillance data do not measure incidence: The data presented are not an estimate of the incidence rate of chronic hepatitis B cases in 2023. The incidence rate is the number of newly infected persons occurring within a defined time in a defined geographical area. While the date of initial reporting to SFDPH is tracked, this date does not necessarily reflect the initial infection or diagnosis date. For example, a person may have been infected many years ago but was not tested until 2023 because a clinician was following recommended screening practices or because symptoms of chronic hepatitis had developed.

3. Reporting gaps: Complete identification of chronic HBV cases depends on complete reporting by laboratories and clinicians. Title 17, CCR mandates clinicians to report cases of chronic hepatitis B to SFDPH[15]; however, the majority of cases are reported by laboratories and not by clinicians. In addition, there are likely San Francisco residents with chronic hepatitis B who did not receive laboratory testing for HBV in 2023 and whose treating clinician did not report their condition. Information about these persons is therefore missing from this report. Finally, people who were included in these data may not live in San Francisco, either because their address information was not provided, or they have moved.

5. Missing information: Laboratory information systems frequently do not receive or store information about patient race and ethnicity, resulting in a large proportion of cases reported with unknown race and ethnicity. Similarly, some laboratory reports are missing a residential address. Of the chronic HBV cases reported to SFDPH in 2023, approximately 0.8% were missing street address, city, and ZIP code information. Additionally, 0.2% of cases were reported with a home address identical to the clinic or outpatient medical facility where they received care; these cases' residences were considered unknown for this report. Since individuals whose county of residence was unknown are included in this report along with persons known to live in San Francisco, the core surveillance data presented may overestimate the number of San Franciscans who were reported with chronic hepatitis B in 2023.

6. Duplication: SFDPH follows procedures to minimize duplicate records for persons whose laboratory results may be submitted with slight variations in name spelling (e.g., use of middle initial, typographic error). However, in some instances it may not be obvious that two different names belong to the same person, so two cases will be recorded instead of one. This would lead to a slight overestimate of the number of reported chronic HBV cases in this period. Conversely, in some situations, information from a case may have been erroneously matched and joined to the information from another case, leading to potential underestimation of the number of chronic HBV cases reported in this period.

DATA TABLES

Table 1: Characteristics of chronic hepatitis B cases in San Francisco, 2023

	All Reported Cases[2]		Newly Reported Cases[2]	
	Number	Percentage (Column)	Number	Percentage (Column)
All	6455	100.0%	508	100.0%
HBV Case Status				
Confirmed	5986	92.7%	55	10.8%
Probable	469	7.3%	453	89.2%
Reported Gender				
Female	3242	50.2%	212	41.7%
Male	3213	49.8%	296	58.3%
Age Group (Years)				
<15	5	0.1%	< 5	< 1.0%
15-24	38	0.6%	16	3.1%
25-34	248	3.8%	63	12.4%
35-44	967	15.0%	86	16.9%
45-54	1477	22.9%	108	21.3%
55-64	1639	25.4%	94	18.5%
65-74	1476	22.9%	87	17.1%
75+	605	9.4%	51	10.0%
Race/Ethnicity[1]				
American Indian/Alaska Native	10	0.2%	< 5	< 1.3%
Asian	4983	85.0%	242	64.0%
Black/African American	129	2.2%	19	5.0%
Hispanic/Latinx (all races)	99	1.7%	26	6.9%
Native Hawaiian/Pacific Islander	34	0.6%	8	2.1%
White	400	6.8%	67	17.7%
Other	204	3.5%	15	4.0%

1. Race/Ethnicity is missing for 596/6455 (9.2%) of all reported cases and 130/508 (25.6%) of newly reported cases in 2023.
2. Number and percentages for categories with fewer than five cases are displayed as '<5' and less than the corresponding percentage for five cases.

Table 2: **All reported** chronic hepatitis B case count, case rate, and population estimate by San Francisco neighborhood, 2023[1]

San Francisco neighborhood[2]	Case count[3]	Case rate[3,4]	Population estimate[5]
Chinatown	340	268.9	12,644
Portola	328	210.8	15,558
Visitacion Valley	348	203.9	17,068
Oceanview/ Merced/ Ingleside	465	187.7	24,770
Bayview Hunters Point	561	140.9	39,816
Excelsior	529	139.5	37,915
Outer Mission	294	135.4	21,717
Sunset/Parkside	965	127.9	75,455
North Beach	96	83.5	11,497
Outer Richmond	341	77.4	44,049
Tenderloin	229	71.5	32,009
South of Market	167	67.6	24,698
West of Twin Peaks	240	65.1	36,882
Mission Bay	104	62.2	16,710
Inner Richmond	126	62.2	20,261
Financial District/ South Beach	148	60.4	24,519
Western Addition	118	53.5	22,066
Nob Hill	117	49.7	23,526
Russian Hill	83	49.2	16,879

San Francisco neighborhood[2]	Case count[3]	Case rate[3,4]	Population estimate[5]
Inner Sunset	118	42.9	27,534
Japantown	14	35.6	3,936
Lakeshore	37	30.8	12,019
Bernal Heights	72	29.1	24,725
Glen Park	24	28.4	8,458
Treasure Island	8	28.3	2,829
Mission	152	27.9	54,431
Potrero Hill	43	27.8	15,463
Hayes Valley	48	26.3	18,240
Castro/Upper Market	57	25.9	22,024
Seacliff	6	24.8	2,419
Presidio Heights	19	19.1	9,942
Twin Peaks	15	19.1	7,861
Lone Mountain/ USF	29	17.7	16,387
Noe Valley	30	12.9	23,334
Pacific Heights	29	12.6	22,976
Haight Ashbury	20	11.2	17,780
Marina	20	8.4	23,733
Presidio	<5	<13.1	3,808

1. 102/6455 (1.6%) of all reported cases could not be geocoded and are not shown.
2. Neighborhoods with a population fewer than 1,000 people are not included.
3. Case counts and case rates for neighborhoods with fewer than five cases are displayed as '<5' and less than the corresponding rate for five cases.
4. Number of cases by neighborhood per 10,000 population
5. San Francisco Population data source: American Community Survey 2019-2023 5-year estimate.[6]

Table 3: **Newly reported** chronic hepatitis B case count, case rate, and population estimate by San Francisco neighborhood, 2023[1]

San Francisco neighborhood[2]	Case count[3]	Case rate[3,4]	Population estimate[5]
Chinatown	36	28.5	12,644
Bayview Hunters Point	45	11.3	39,816
Western Addition	22	10.0	22,066
Visitacion Valley	17	10.0	17,068
Oceanview/ Merced/ Ingleside	24	9.7	24,770
Financial District/ South Beach	23	9.4	24,519
Portola	14	9.0	15,558
North Beach	10	8.7	11,497
Tenderloin	25	7.8	32,009
Outer Mission	16	7.4	21,717
Excelsior	26	6.9	37,915
Nob Hill	16	6.8	23,526
Lakeshore	8	6.7	12,019
West of Twin Peaks	22	6.0	36,882
Mission Bay	10	6.0	16,710
Sunset/ Parkside	41	5.4	75,455
South of Market	13	5.3	24,698
Russian Hill	9	5.3	16,879
Outer Richmond	22	5.0	44,049

San Francisco neighborhood[2]	Case count[3]	Case rate[3,4]	Population estimate[5]
Hayes Valley	9	4.9	18,240
Potrero Hill	5	3.2	15,463
Inner Richmond	6	3.0	20,261
Mission	15	2.8	54,431
Bernal Heights	7	2.8	24,725
Noe Valley	6	2.6	23,334
Inner Sunset	7	2.5	27,534
Castro/Upper Market	5	2.3	22,024
Marina	5	2.1	23,733
Pacific Heights	<5	<2.2	22,976
Haight Ashbury	<5	<2.8	17,780
Lone Mountain/ USF	<5	<3.1	16,387
Presidio Heights	<5	<5	9,942
Glen Park	<5	<5.9	8,458
Twin Peaks	<5	<6.4	7,861
Japantown	<5	<12.7	3,936
Presidio	<5	<13.1	3,808
Treasure Island	<5	<17.7	2,829
Seacliff	<5	<20.7	2,419

1. 25/508 (4.9%) of newly reported cases could not be geocoded and are not shown.
2. Neighborhoods with a population fewer than 1,000 people are not included.
3. Case counts and case rates for neighborhoods with fewer than five cases are displayed as '<5' and less than the corresponding rate for five cases.
4. Number of cases by neighborhood per 10,000 population
5. San Francisco Population data source: American Community Survey 2019-2023 5-year estimate.[6]

REFERENCES

1. Centers for Disease Control and Prevention. Hepatitis B. Clinical Overview of Hepatitis B. https://www.cdc.gov/hepatitis-b/hcp/clinical-overview/index.html. Accessed April 2025.
2. Centers for Disease Control and Prevention. Vaccines & Immunizations. Child and Adolescent Immunization Schedule by Age. https://www.cdc.gov/vaccines/hcp/imz-schedules/child-adolescent-age.html. Accessed April 2025.
3. Conners EE, Panagiotakopoulos L, Hofmeister MG, et al. Screening and Testing for Hepatitis B Virus Infection: CDC Recommendations — United States, 2023. MMWR Recomm Rep 2023;72(No. RR-1):1–25. DOI: http://dx.doi.org/10.15585/mmwr.rr7201a1
4. Weng MK, Doshani M, Khan MA, et al. Universal Hepatitis B Vaccination in Adults Aged 19–59 Years: Updated Recommendations of the Advisory Committee on Immunization Practices — United States, 2022. MMWR Morb Mortal Wkly Rep 2022;71:477–483. DOI: http://dx.doi.org/10.15585/mmwr.mm7113a1
5. Schillie S, Vellozzi C, Reingold A, et al. Prevention of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices. MMWR Recomm Rep 2018;67(No. RR-1):1–31. DOI: http://dx.doi.org/10.15585/mmwr.rr6701a1
6. DataSF. Open Data. Economy & Community. San Francisco Population and Demographic Census data. https://data.sfgov.org/Economy-and-Community/San-Francisco-Population-andDemographic-Census-da/4qbq-hvtt. Accessed January 2025.
7. Bixler D, Barker L, Lewis K, Peretz L, Teshale E. Prevalence and awareness of Hepatitis B virus infection in the United States: January 2017 - March 2020. Hepatol Commun. 2023;7:e0118. https://doi.org/10.1097/HC9.0000000000000118.
8. Toy M, Wei B , Virdi TS, Le A, Trinh H, Li J, Zhang J, Hsing AW, So SK, Nguyen MH. Racial/ethnic- and county-specific prevalence of chronic hepatitis B and its burden in California. Hepatology, Medicine and Policy. 2018. 3:6 https://doi.org/10.1186/s41124-018-0034-7.
9. San Francisco Hep B Free. https://sfhepbfree.org/. Accessed April 2025.
10. California Legislative Information. Assembly Bill No. 789 Health care services. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB789 Accessed April 2025.
11. Centers for Disease Control and Prevention. Viral Hepatitis Surveillance Report – United States, 2023. https://www.cdc.gov/hepatitis-surveillance-2023/about/index.html. Published April 2025. Accessed April 2025.
12. US Department of Health and Human Services. Viral Hepatitis National Strategic Plan for the United States: a Roadmap to Elimination for the United States, 2021–2025. Washington, DC: US

Department of Health and Human Services; 2020. https://www.hhs.gov/sites/default/files/Viral-Hepatitis-National-Strategic-Plan-2021-2025.pdf

13. Bixler D, Zhong Y, Ly KN, Moorman AC, Spradling PR, Teshale EH, Rupp LB, Gordon SC, Boscarino JA, Schmidt MA, Daida YG, Holmberg SD. Mortality Among Patients With Chronic Hepatitis B Infection: The Chronic Hepatitis Cohort Study (CHeCS). Clinical Infectious Diseases. 2019; 68(6): 956–963, https://doi.org/10.1093/cid/ciy598
14. U. S. Department of Health and Human Services. Health Information Privacy. Disclosures for Public Health Activities. 45 CFR 164.512(b). https://www.hhs.gov/hipaa/for-professionals/privacy/guidance/disclosures-public-health-activities/index.html. Accessed April 2025.
15. Title 17 California Code of Regulations § 2500 and § 2505. https://oal.ca.gov/publications/ccr/ (Search for Title 17, Section 2500 or 2505). Accessed April 2025.
16. California Code, Health and Safety Code - HSC § 120130. https://codes.findlaw.com/ca/health-and-safety-code/hsc-sect-120130/. Accessed April 2025.
17. Centers for Disease Control and Prevention. National Notifiable Diseases Surveillance System. Hepatitis B, Chronic, 2012 Case Definition. https://ndc.services.cdc.gov/case-definitions/hepatitis-b-chronic-2012/. Accessed April 2025.
18. California Legislative Information. Assembly Bill No. 1797 Immunization registry. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB1797. Accessed April 2025.
19. California Health and Human Services Open Data Portal. Live Birth Profiles by County. https://data.chhs.ca.gov/dataset/live-birth-profiles-by-county. Accessed January 2025.
20. California Department of Public Health. California Immunization Registry. CAIR Data Analysis Considerations. https://www.cdph.ca.gov/Programs/CID/DCDC/CAIR/CDPH%20Document%20Library/CAIRDataAnalysisConsiderations.pdf. Accessed January 2025.
21. World Health Organization. International Classification of Diseases, 10th Geneva: World Health Organization; 1998. http://www.who.int/classifications/icd/en/. Accessed April 2025.