

VIRAL HEPATITIS

2026 Annual Report

Communicable Disease Control Division



**PUBLIC
HEALTH
SERVICES**

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Acknowledgments:

We acknowledge the people in Orange County affected by viral hepatitis and recognize how the collective experiences help inform and strengthen this report. We also commend the medical community—providers, healthcare institutions, and laboratories—for their dedication to caring for individuals with viral hepatitis and reporting cases. Lastly, we highlight the essential work of the OC Health Care Agency Communicable Disease Control Division’s Nurses and Epidemiologists in investigating cases and analyzing Orange County’s viral hepatitis data.

OPENING LETTER

The OC Health Care Agency (HCA) is committed to protecting and promoting the health of all residents, guided by our mission and vision of fostering a safe and healthy Orange County. Viral hepatitis remains a significant and preventable public health challenge—one that aligns closely with the local priorities.

Hepatitis A, hepatitis B, and hepatitis C viruses cause serious liver disease. Acute hepatitis A infection frequently requires hospitalization and can lead to liver failure and death. Hepatitis B and hepatitis C viruses can cause acute hepatitis but more commonly lead to chronic infection, which in turn can lead to cirrhosis, liver failure, and liver cancer. These infections contributed to chronic liver disease and cirrhosis being the ninth leading cause of death in Orange County in 2021.¹

Fortunately, highly effective vaccines are available to protect against hepatitis A and B. While no vaccine is available for hepatitis C, highly effective treatments that cure over 90% of hepatitis C infections are available. Yet, despite these effective interventions, thousands of viral hepatitis cases continue to be identified in Orange County each year.

Global and national strategies, including the World Health Organization's Global Hepatitis Strategy² and U.S. National Hepatitis Elimination Plans³ outline evidence-based approaches to reducing and ultimately eliminating viral hepatitis. Local action plays a critical role in achieving these goals.

Beginning with this inaugural Orange County Viral Hepatitis Annual Report, we aim to establish a clear baseline of the burden and trends of viral hepatitis in our community. In addition to this comprehensive initial report, the HCA will produce periodic, shortened annual updates to keep local partners informed of collective progress toward viral hepatitis elimination. These concise updates will summarize key indicators, emerging patterns, and advancements in prevention, testing, and treatment—ensuring that community stakeholders have timely, actionable information to guide ongoing efforts.

Sincerely,

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EXECUTIVE SUMMARY

Orange County continues to make meaningful progress toward eliminating viral hepatitis, yet important gaps remain—particularly in addressing chronic hepatitis B and C.

Over the past decade, rates of hepatitis A, B, and C in the county have declined. Hepatitis A incidence has remained consistently low at less than 1 case per 100,000 residents, and acute hepatitis B and C rates have also remained low. These trends reflect the positive impact of long-standing prevention measures, including vaccination, safer practices, and improvements in surveillance.

In the county, rates of chronic hepatitis C have decreased, paralleling national trends. In recent years, the pace of improvement has slowed. Factors influencing chronic hepatitis C prevalence include the availability of highly effective curative treatment, the degree of access to that treatment and related barriers, and ongoing new infections driven by injection drug use. Successful treatment not only improves individual health but also prevents further transmission. Continued work to address injection drug use and identifying and reducing barriers to treatment access—such as screening limitations, care navigation challenges, and social determinants affecting engagement in care—could accelerate progress.

Trends in chronic hepatitis B in Orange County have also declined compared to 10 years ago, but more recently, have shown increases in newly identified cases. Current data on chronic hepatitis B diagnoses in Orange County is limited to lab reports received. The data does show that members of the Asian community are disproportionately affected. We know that globally, most people are infected with hepatitis B at birth, with perinatal transmission from mother to infant, and in some countries in Asia rates of chronic hepatitis B remain high. In the United States, for over 20 years, hepatitis B

vaccine has been routinely recommended starting at birth to prevent perinatal transmission. High vaccination coverage and a lack of acute hepatitis B cases suggest that new cases are not due to people becoming infected here. The increasing rates of chronic hepatitis B in the county may reflect changing demographics, people coming into the county from elsewhere, whether domestically or through immigration. Other possible reasons for the change in new cases could reflect changes in testing for hepatitis B. Communicable Disease Control is working to improve chronic hepatitis B surveillance data to help us better understand the patterns of disease and the needs of those infected. No curative treatment exists for hepatitis B; individuals with chronic infection remain at elevated risk for liver failure, cirrhosis, and liver cancer. This underscores the need to better understand whether Orange County residents with chronic hepatitis B are being effectively linked to ongoing clinical monitoring and care to reduce complications.

Taken together, these data highlight both the advances already achieved and the work still needed to reach viral hepatitis elimination. We hope this report offers a clear picture of the County of Orange's progress and helps to inform collaborative efforts to address remaining challenges.



BACKGROUND

Viral hepatitis is caused by a range of viruses that are spread through different routes and can cause acute and chronic liver infections.

Hepatitis A

Hepatitis A is caused by the hepatitis A virus (HAV) and is shed in the stool of infected individuals. The virus spreads through person-to-person transmission and contaminated food and water.⁴ Children who are infected usually have no symptoms, but adults often experience significant illness, with fever, jaundice (yellowing of the skin and eyes), and evidence of liver inflammation. Rarely, this can progress to acute liver failure and death. Since 1995, HAV vaccines have been available and are now routinely recommended for all children and adults who are at increased risk for infection or severe disease.⁵



Hepatitis B

Hepatitis B is caused by the hepatitis B virus (HBV). HBV is present in blood and body fluids and can be transmitted from mother to child during the birthing process. HBV can be transmitted in households through the sharing of everyday items (such as drinking glasses, toothbrushes, razors, and blood glucose testing equipment), and less commonly through medical procedures and injection drug use.⁶

Before the availability of the hepatitis B vaccine, the most common route of spread was from mother to child at birth. Infected infants often show no signs of infection, but these children frequently develop chronic hepatitis B infection for which there is currently no curative treatment. People with chronic hepatitis B are at increased risk for liver failure and liver cancer. Nonimmune adults who become infected are more likely to present with acute hepatitis B, which can be life threatening.⁷

Adults with hepatitis B infection may clear their infection and become immune, or develop chronic hepatitis B, which can cause liver dysfunction and failure and death. For those with chronic HBV infection there is currently no curative treatment.

Hepatitis B vaccines were first introduced in the US in 1981. All pregnant women are recommended to be tested for hepatitis B infection during pregnancy so that measures can be taken to prevent spread to the newborn. Hepatitis B vaccine is recommended for all newborns, with completion of the vaccine series between 6 and 18 months of age.⁸ Previously unvaccinated adults are advised to receive the hepatitis B vaccine.

Hepatitis C

Hepatitis C is caused by the hepatitis C virus (HCV). HCV is a bloodborne infection. Before the identification of the virus in 1989 and the screening of blood donations starting in 1991, blood transfusions were the most common mode of spread. In the past decade HCV has primarily spread through injection drug use linked to the national opioid epidemic.⁹ The majority of people who become infected with HCV have no symptoms, and most of those infected develop chronic hepatitis C which can cause liver failure and liver cancer. In 2020 the recommendation was made that all adults be tested at least once for hepatitis C and those at high risk get tested regularly.¹⁰ Hepatitis C is one of the leading causes of liver transplants in the US. There is no vaccine to prevent hepatitis C. In 2013, highly effective direct-acting antiviral (DAA) medications became available, offering cure rates exceeding 90% for HCV infection.¹¹ In California, in 2024 it was estimated that only 38% of those with hepatitis C are treated.¹²



METHODS

Hepatitis A, B, and C are reportable conditions in Orange County per California Code of Regulations, Title 17, Sections 2500 and 2505. For more information on disease reporting, see the HCA's Communicable Disease Control Division (CDCD) Reporting Diseases website: <https://www.ochealthinfo.com/services-programs/disease-prevention/healthcare-providers/report-disease>. Most viral hepatitis case reports are received through electronic laboratory reports (ELRs) submitted by clinical laboratories, with only occasional notifications provided directly by healthcare providers to CDCD.

The HCA's CDCD staff investigate all received case reports of hepatitis A, acute hepatitis B and hepatitis C. Investigation involves attempting to interview the people who have been reported via laboratory or provider reports to assess risk factors and outcomes, including treatment information. Additional information is obtained through medical record review, which may serve as the sole source of data when interview attempts are unsuccessful.

Rates of hepatitis A, acute and chronic hepatitis B, and chronic hepatitis C were obtained from the Centers for Disease Control and Prevention (CDC) Hepatitis Surveillance Report: <https://www.cdc.gov/hepatitis/php/statistics-surveillance/index.html>

Population estimates for rate calculations were sourced using the U.S. Census, American Community Survey 5-Year Estimates.

Mortality data were extracted from CDC WONDER (Wide-ranging Online Data for Epidemiologic Research) using the following ICD codes (International Classification of Diseases code):

- Hepatitis B: B16.0-B16.9, B18.0, B18.1
- Hepatitis C: B17.1, B18.2

Immunization data were sourced from the California Immunization Registry (CAIR). Reported doses are limited to Orange County residents. Effective January 1, 2023, California healthcare providers who administer immunizations are required to enter all immunization information into CAIR.

FINDINGS

HEPATITIS A

Hepatitis A infection counts in Orange County have been stable over the past decade. International travel is the most commonly reported risk factor for hepatitis A infection identified in Orange County. Although other jurisdictions have documented hepatitis outbreaks among people experiencing homelessness and among people who use drugs recreationally, no such outbreaks have occurred in Orange County to date. Nearly all reported cases in Orange County occur among adults, with 99 percent affecting individuals aged 18 years and older.

Routine clinical testing for hepatitis A infection involves detecting positive serology results for hepatitis A immunoglobulin M (IgM). The HCA's CDCD attempts to investigate all cases of hepatitis A and obtain specimens for confirmatory testing at OC Public Health Laboratory, where testing is done to detect hepatitis A virus. In the past decade, approximately 120 cases of hepatitis per year are investigated by the CDCD and only 13% of those are confirmed as a true hepatitis A infections after additional investigation.

Cases and Trends

Table 1: Hepatitis A Cases

2024 Summary	
Number	20
Rate	0.63 per 100,000 people
Cases Hospitalized (2020-2024)	60%
Risk Factors (2015-2024)	
Travel	58%
Other*	25%
Unknown	17%

*Of the other risk factors reported, none accounted for more than 4% of cases.

Figure 1: Rate of Confirmed Hepatitis A Cases for Orange County, California and the US (California and US data only available through 2023)

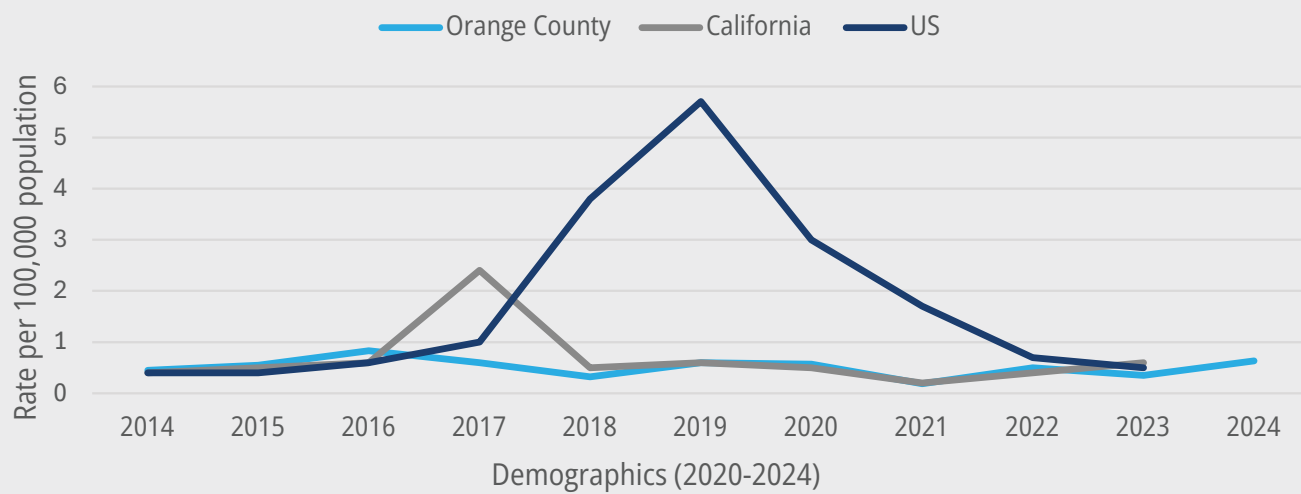


Figure 2: Gender of Confirmed Hepatitis A Cases (%)



Figure 3: Ages of Confirmed Hepatitis A Cases (%), 2020-2024

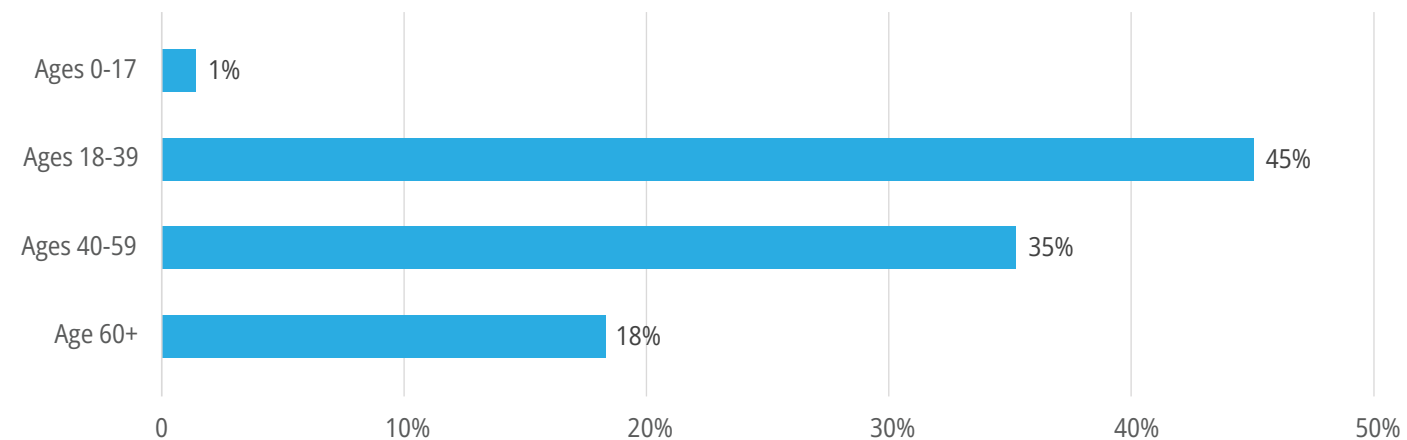
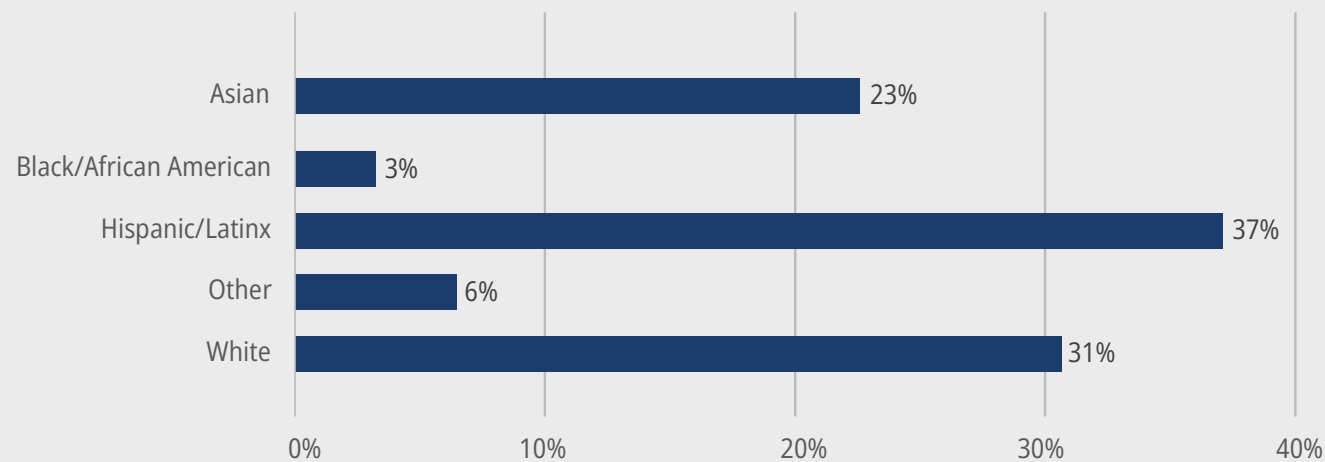


Figure 4: Race/Ethnicity of Confirmed Hepatitis A Cases (%)



Vaccinations

Table 2: Hepatitis A Vaccinations

2024 Doses Administered (Number)	
Under 18 years	61,352
18 years and older	20,302

HEPATITIS B

Chronic Hepatitis B

Rates of newly reported chronic HBV cases are high in Orange County in comparison to available state and national data. Shifts in the number of newly reported cases over time may reflect underlying changes in the population rather than true changes in disease incidence, or may instead be the result of variations in testing practices. Chronic HBV rates are disproportionately higher among persons >40 years of age and persons who identify as Asian. Rates of chronic HBV associated deaths are similar to state and national rates.

Cases and Trends

Table 3: Chronic Hepatitis B Cases

2024 New Cases	
Number	1,502
Rate	47.5 per 100,000 people
Positive-Tested Cases*	
2024	5,794
Cumulative (2015-2024)**	19,842

*Cases are a combination of new infections and people with previously known HBV infections who have seen a healthcare provider for follow up testing.
**Number does not account for people potentially moving out of Orange County as well as deaths.

Figure 5: Rates of New Chronic Hepatitis B Cases for Orange County, California and the US (California data is only available for 2022 and 2023. US data is available starting in 2021)

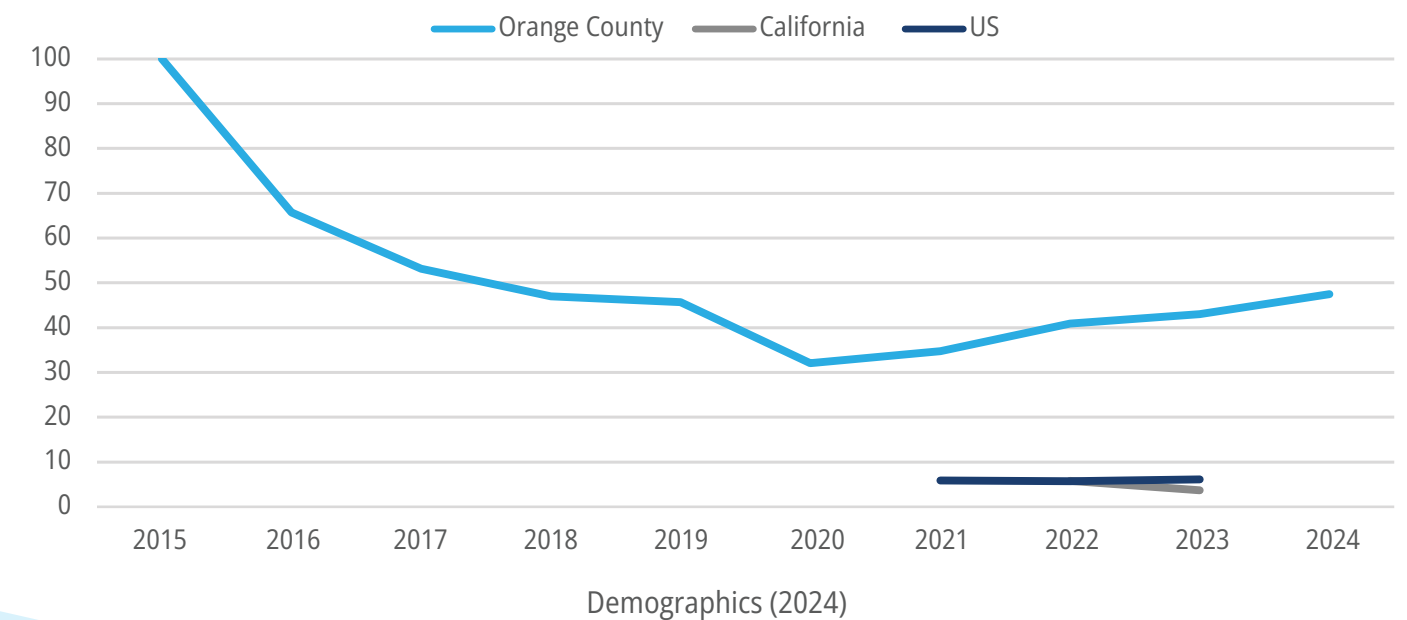


Figure 6: Gender of Hepatitis B Chronic Cases (%)



Figure 7: Ages of Hepatitis B Chronic Cases (%)

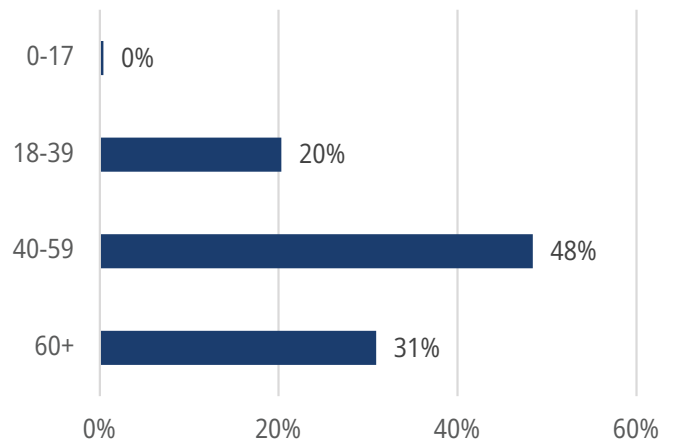
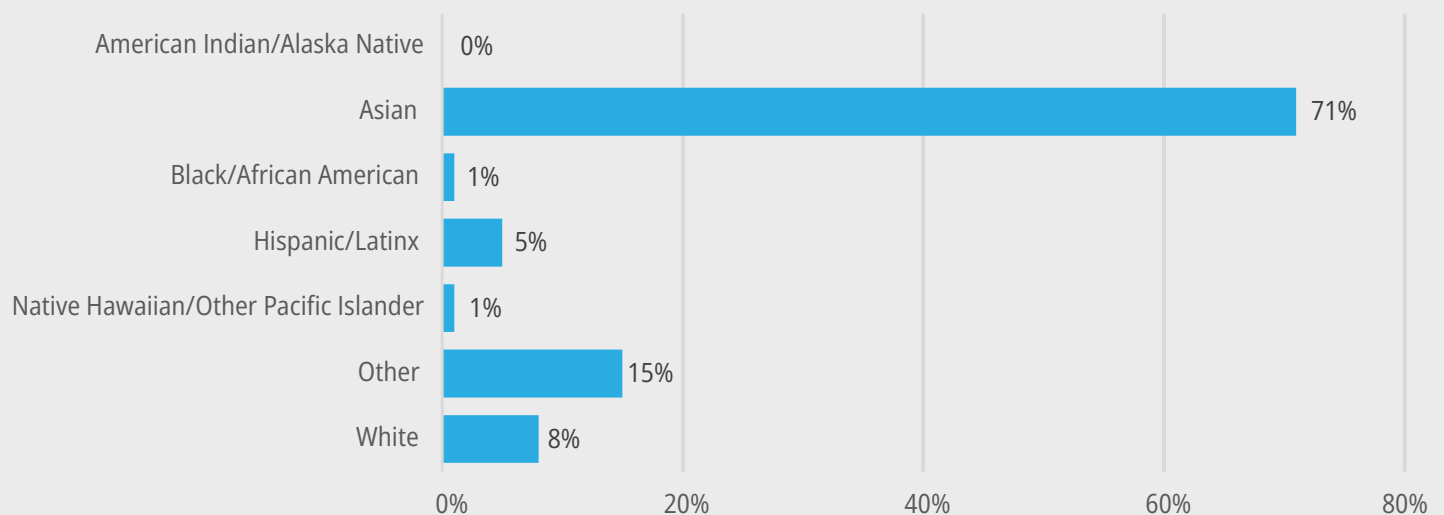


Figure 8: Race/Ethnicity of Hepatitis B Chronic Cases (%)*



*In 2024, 72% of chronic hepatitis B cases had no race information reported. Figure 8 above represents the data for 28% of chronic cases with reported race.

Hepatitis B Associated Deaths

Cases and Trends

Table 4: Hepatitis B Associated Deaths

2023 Summary	
Number	36
Rate	1.1 per 100,000 people

Figure 9: Crude Rate of Hepatitis B Associated Deaths for Orange County, California, and the US

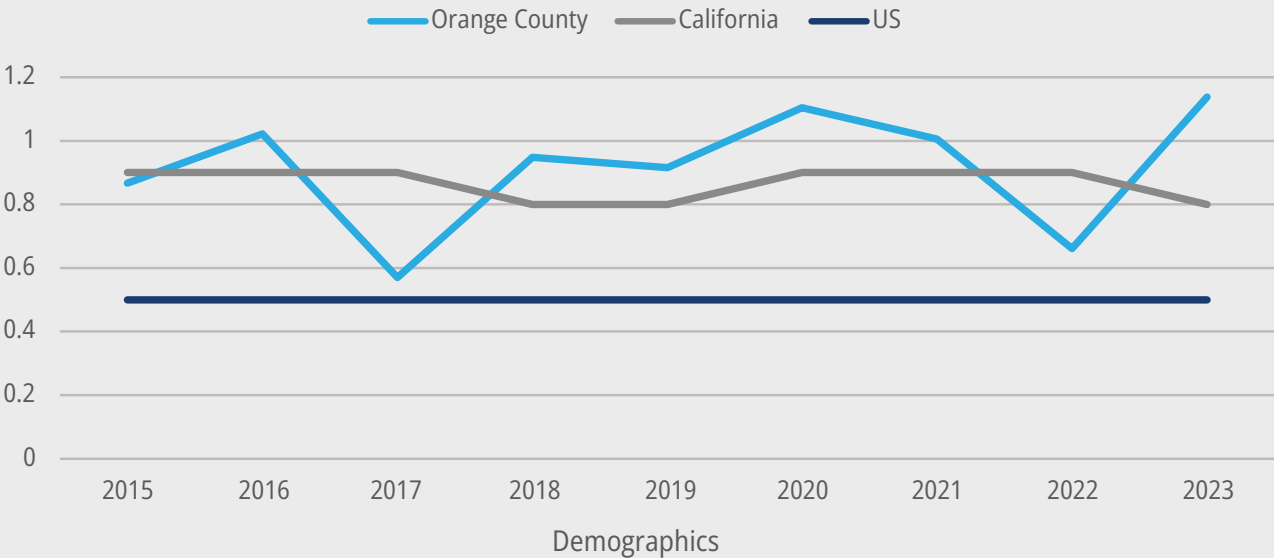
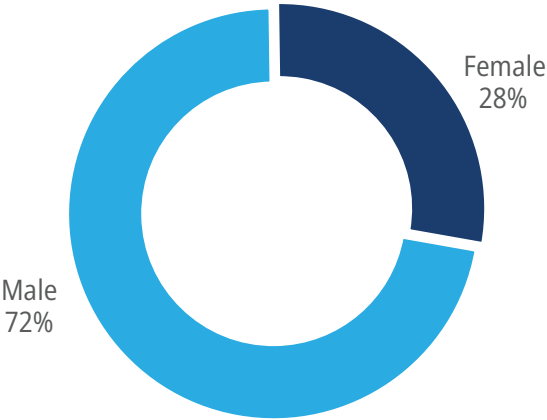


Figure 10: Gender of Hepatitis B Associated Deaths (%), 2015-2023



Vaccinations

Table 5: Hepatitis B Vaccinations

2024 Doses Administered (Number)	
Under 18 years	106,525
18 years and older	96,011

Perinatal Hepatitis B

California law (California Health & Safety Code § 125085) requires testing for hepatitis B virus (HBV) during each pregnancy, and requires reporting of any positive results to local public health. For those who test positive, the HCA follows their pregnancy to ensure the newborns of infected mothers receive appropriate treatment to prevent transmission of hepatitis B.

The HCA perinatal Hepatitis B program followed up with all (100%) pregnant people who tested positive, and ensured treatment within 24 hours of all infants (100%) born to people who tested positive for hepatitis B.

No perinatal transmission of HBV was identified in 2024 although 36% of infants were lost to follow-up before their HBV status could be determined.

Table 6: Perinatal Hepatitis B Cases (June 2023 to June 2024)

Pregnant Persons	
Number of positive screenings	182
Infants	
Number born to positive pregnant cases	159
Percent completing vaccination series with confirmed negative post-series test	51%
Percent lost to follow-up (no final test to confirm negative status)	36%
Number of positive infant cases at 6+ months	0

Acute Hepatitis B

Rates of acute HBV have been stable in Orange County. They are similar to rates in California but lower than national rates of disease. In the past 10 years, the HCA's CDCD investigated, on average, over 60 reported cases of acute hepatitis B viral infections per year. The majority (89%) of those reported were not confirmed as acute HBV cases and were found after investigation to be known chronic hepatitis B cases.

Cases and Trends

Figure 11: Rate of Confirmed Acute Hepatitis B Cases for Orange County, California, and the US

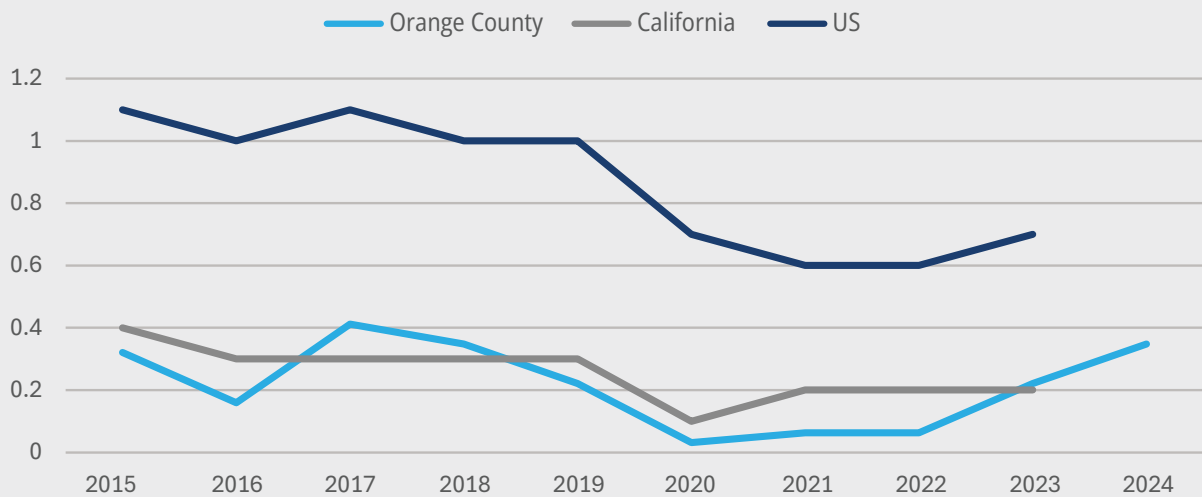


Table 7: Acute Hepatitis B Cases

2024 Annual Summary	
Number	11
Rate	0.4 per 100,000 people
2015-2024 Average	
Number Reported	64
Percent Confirmed from Reported	11%

Demographics

Table 8: Acute Hepatitis B Cases by Certain Demographics

2024 Summary	
Percent Male	90%
Percent 60+ Years	54%
Percent Asian (most frequently identified race/ethnicity)	40%

Reported Risk Factors

For acute hepatitis B cases from 2015-2024 people can report multiple risk factors per person. Of 69 people with confirmed HBV in Orange County, 14 reported no risk factors, the remaining 55 people reported 131 risk factors. The most common responses are as follows:

Table 9: Acute Hepatitis B Self-Reported Risk Factors

Response	
Sexual contact	25%
Finger stick or blood draw in home or clinic	8%
Manicure or pedicure	7%
Prior hospitalization	7%
Non-injection street drugs	7%
All other responses	<7%



HEPATITIS C

Testing

The decline in positive hepatitis C (HCV) test results observed since 2022 may reflect reduced screening among low-risk individuals who have already been tested or an overall decrease in screening. Because the County receives only positive laboratory results—and does not receive negative test data—the extent to which testing patterns influence these trends remains uncertain.

People who test positive for hepatitis C antibodies have been exposed to the virus; some will clear the infection naturally, while others may have been successfully treated in the past. Because an antibody-positive result does not indicate whether infection is still present, everyone with a positive hepatitis C antibody test should receive an HCV RNA test to confirm whether they are currently infected and eligible for treatment.¹³

In 2024, 1,604 Orange County residents were positive when screened for hepatitis C antibodies. Of these, 717 (45%) also received the recommended follow-up hepatitis RNA testing to determine if the infection is current (positive) or cleared (negative). The 55% who did not have RNA testing after a positive antibody test, are considered incompletely screened. Of the 717 who had RNA testing, 21% (152) tested positive, indicating a current infection. Within that 12-month period, there were 63 persons who had originally tested positive for hepatitis C with RNA testing, and later tested negative, indicating an infection that later cleared (presumably due to treatment) within a year. See figure 13 for further details.

Table 10: Hepatitis C Positive Tests in Orange County

2015-2024 Testing Summary	
Number of Positive Antibody Tests	24,196

Figure 12: Number of Unique People with a HCV Positive Test in Orange County

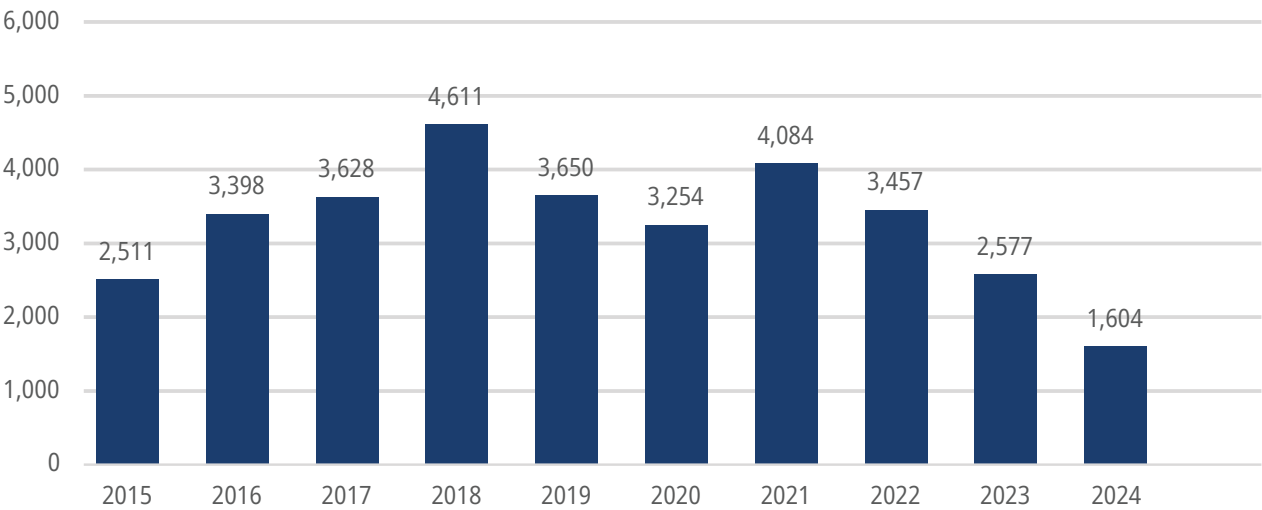
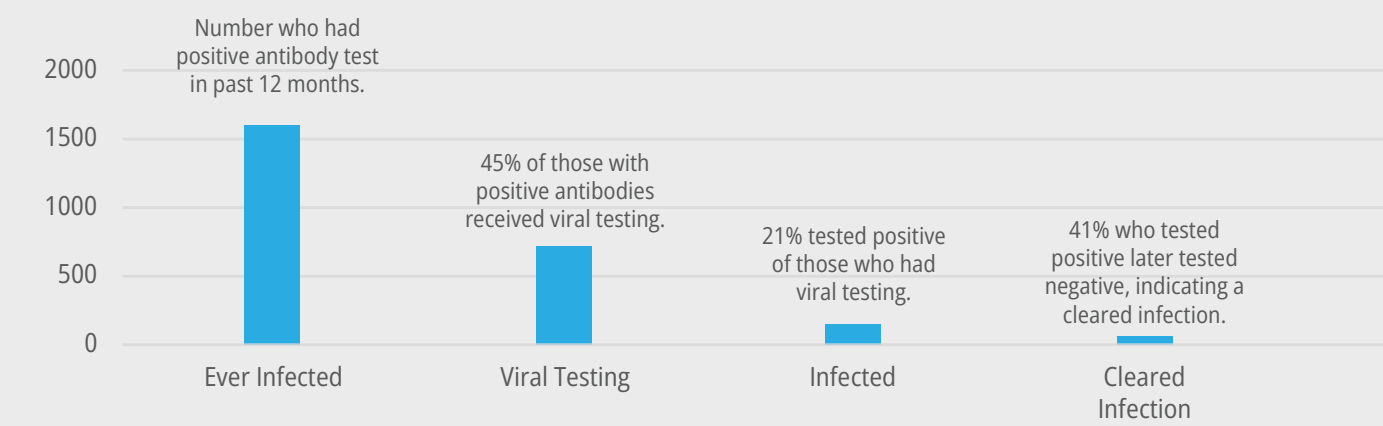




Figure 13: Cascade of Care, Orange County, 2024



Chronic Hepatitis C

Rates of HCV have been stable over the past five years after a decline from 2015. Rates of newly reported HCV cases in Orange County are similar to California and are lower than national rates. People with HCV are disproportionately male, and white. The rate of HCV among adults aged 18–39 has increased compared to 10 years ago. Adults aged 60 and older once had the highest HCV rates, but their rates have declined and are now lower than those in both the 18–39 and 40–59 age groups. Among 2024 cases where the CDCD successfully gathered information, a history of injection drug use is the most common risk factor identified.

Cases and Trends

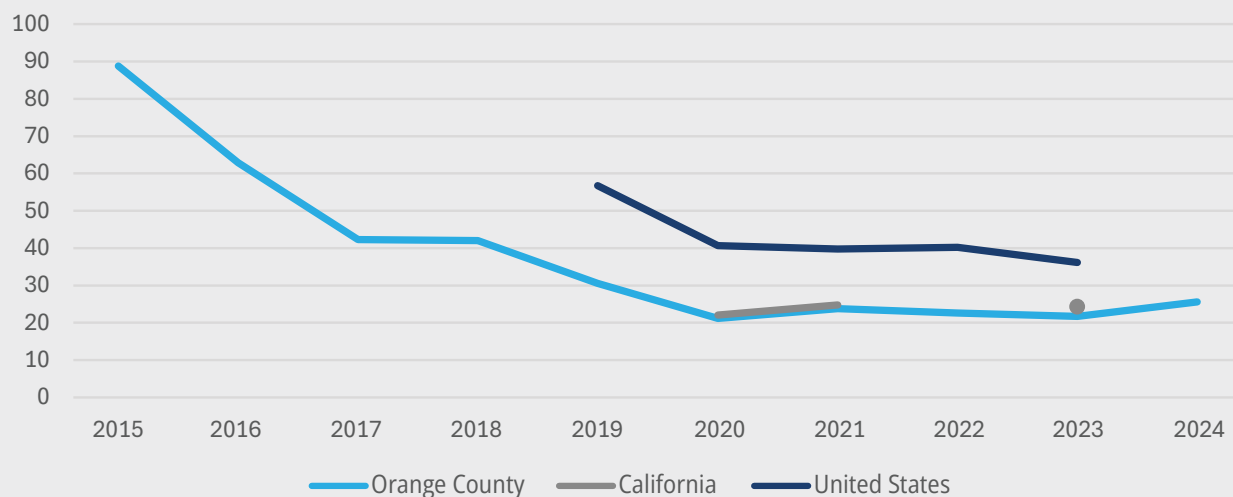
Table 11: Chronic Hepatitis C

2024 Summary of Cases*	
Number of New Cases	809
Rate of New Cases	25.6 per 100,000 people
Number of living with HCV**	1,654

*Confirmed cases only

**Includes new cases and those testing positive in previous years

Figure 14: Rate of New Confirmed Chronic Hepatitis C Cases for Orange County, California, and the US*



*California data was not available for 2022 or 2024; US data was available 2019-2023.

Figure 15: Number of people testing positive for hepatitis C (HCV RNA +) per year in Orange County 2015 through 2024

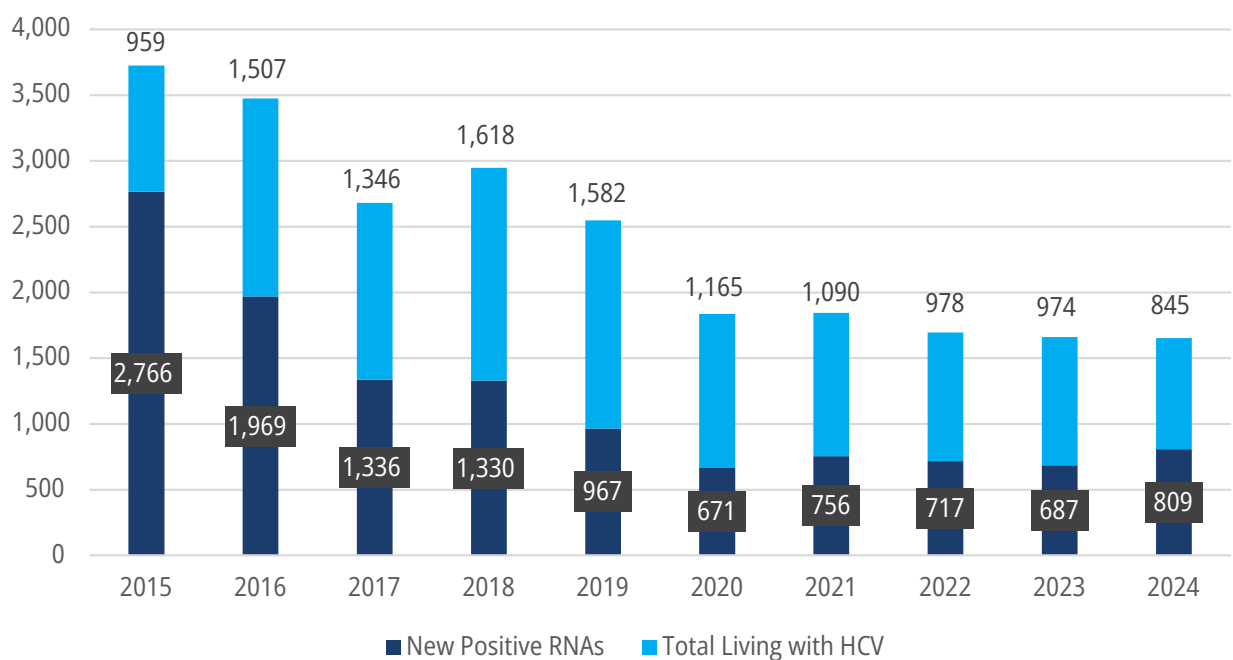


Figure 16: Rate of Hepatitis C RNA Positives by Age

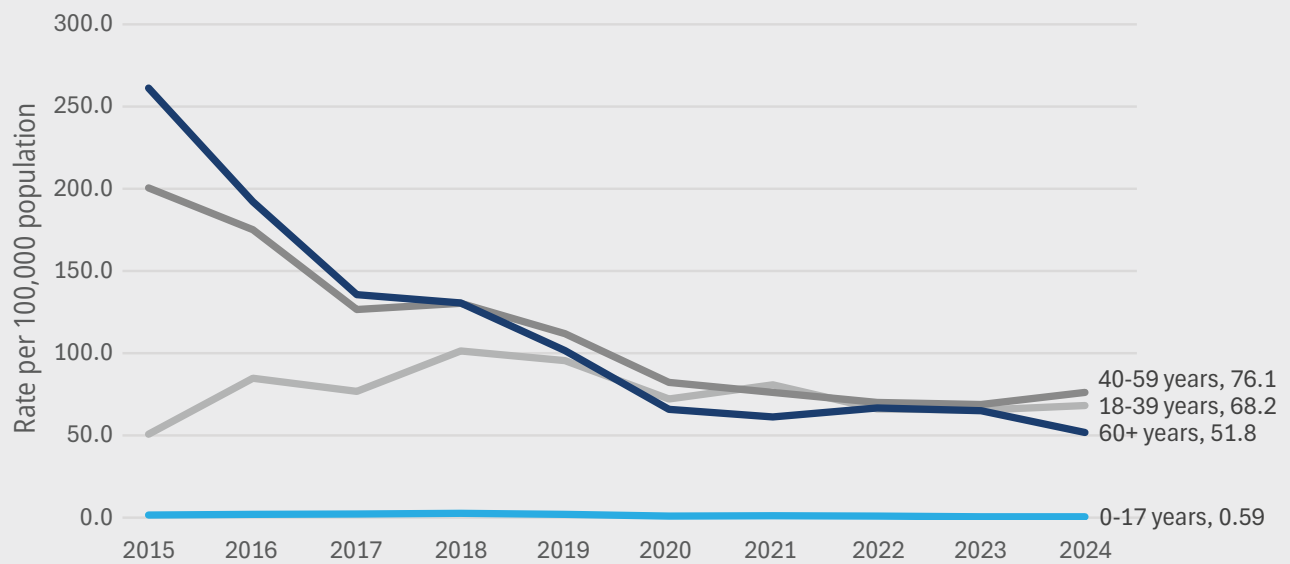


Figure 17: Gender of Hepatitis C Chronic Cases (%) 2024

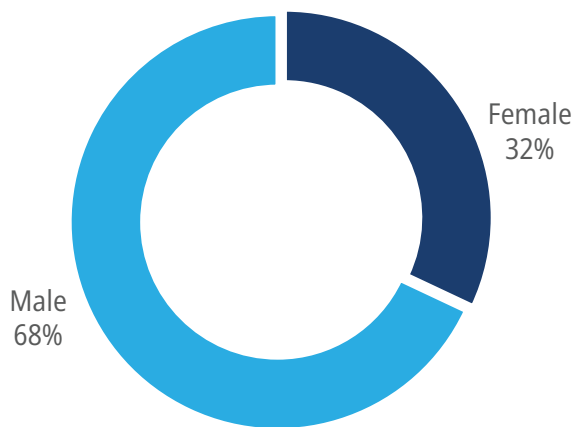


Figure 18: Ages of Hepatitis C Chronic Cases (%), 2024

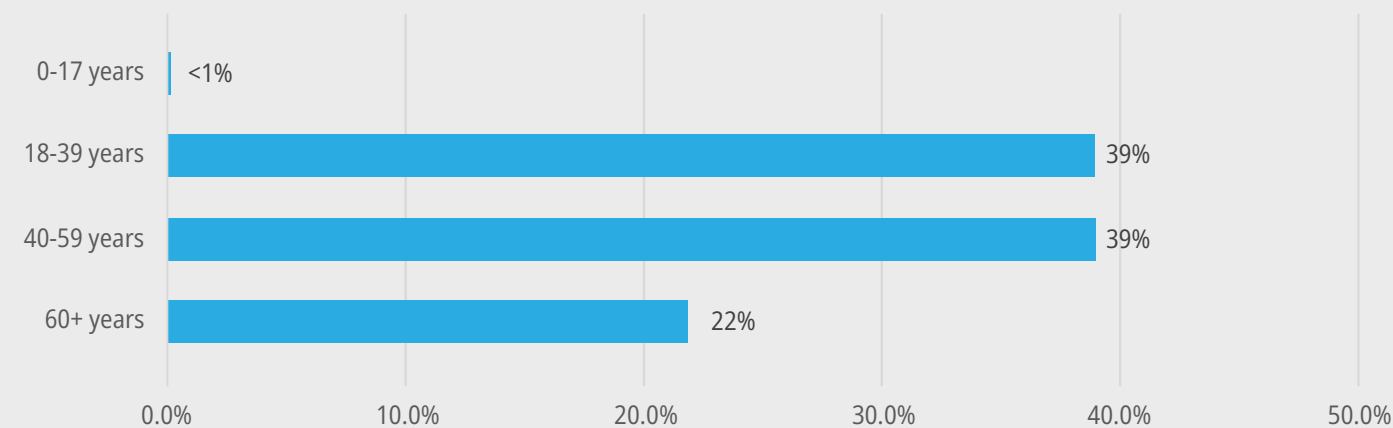
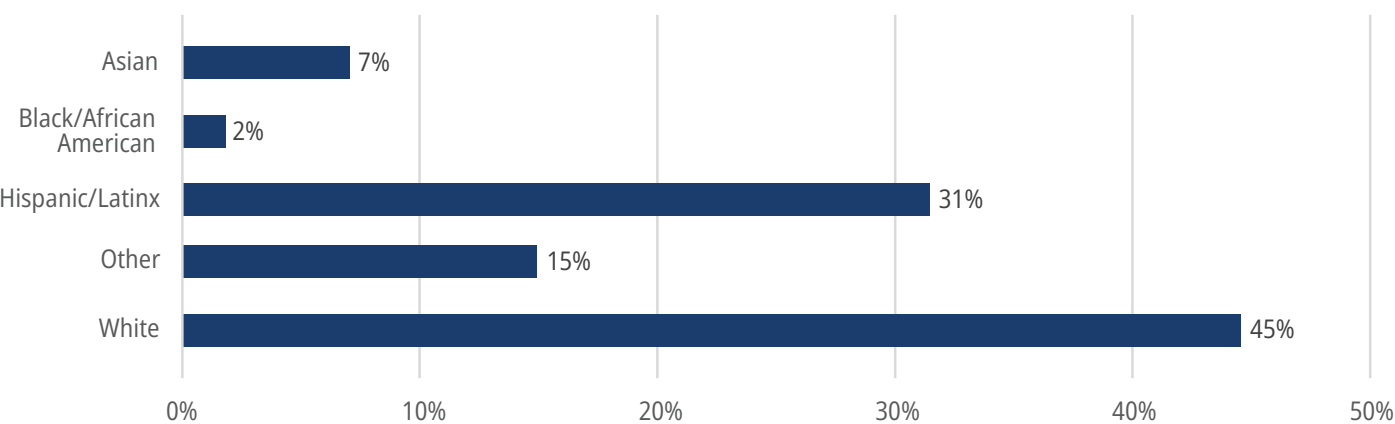


Figure 19: Race/Ethnicity of Hepatitis C Chronic Cases (%), 2024*



*Among people with chronic hepatitis in 2024, 57% had no race information reported. The percentages above represent the racial distribution among the 43% with reported race information.

Hepatitis C Communicable Disease Investigations

The OC Health Care Agency's Communicable Disease Control Division began to investigate chronic hepatitis C cases in mid-2023 in an effort to understand more about the people who were infected with hepatitis C in Orange County. Of the 727 cases of hepatitis C identified in 2024, an investigation was attempted for 80% (640) of those cases. Investigations involved attempting interviews and collecting medical records. Information was successfully collected in 283 of 640 investigations (44%). Twenty-two percent (139 of 640 investigations) reported risk factor information. The data below summarizes the findings of successful investigations.

Table 12: Hepatitis C Case Investigation Summary

The Type of Provider Who Ordered the Hepatitis C Testing (Number = 279)	
Specialists	44%
Primary Care	40%

Risk Factors for Getting Hepatitis C (Number = 139) (multiple answers could be reported per person)	
Ever injected drugs not prescribed by a doctor	56%
Drug exposure (other)*	39%
History of incarceration	36%
Received an unsterile tattoo	29%
Accidental needlestick	14%

Reasons the Person was Tested for Hepatitis C Infection (Number = 279)	
Follow up on previous hepatitis C result	33%
Screening with risk factors	31%
Screening without risk factors	11%
Tested because of symptoms	7%
Other+	18%

*Includes the group who identified as had sex in exchange for money, housing, drugs or other goods, Injection drug use partner of confirmed or probable case of HCV, Non-injection drug use partner of confirmed or probable case of HCV, sexual contact of confirmed or probable case of HCV, and used non-injected drugs.

+ Includes abnormal liver function tests, and prenatal screening.

Acute Hepatitis C

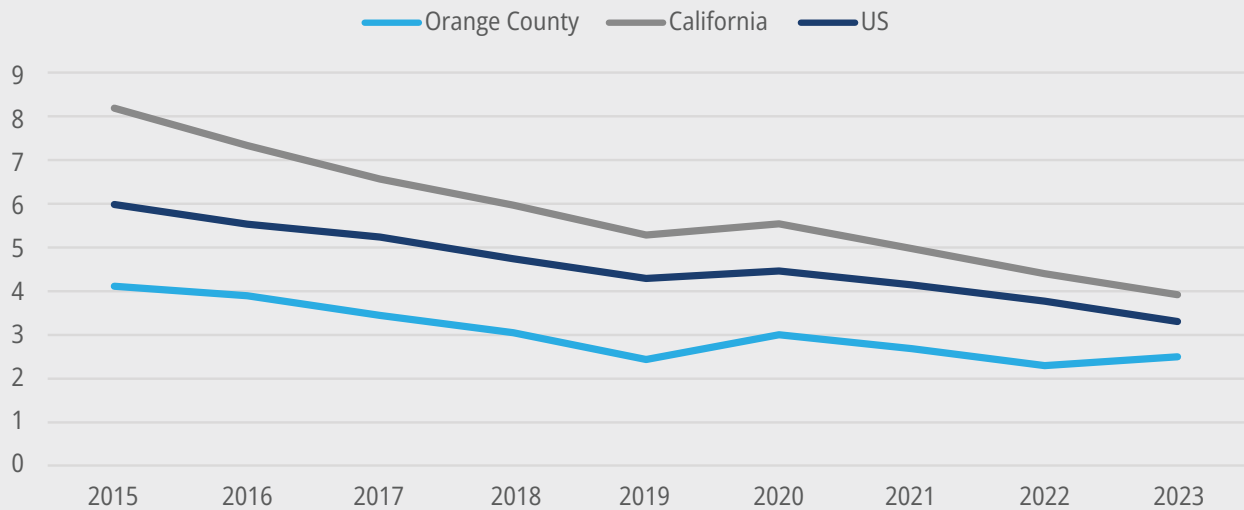
Most new hepatitis C infections do not cause acute symptoms. Since 2014, Orange County has reported an average of 5.9 acute hepatitis C cases per year (range 1–13).

Table 13: Acute Hepatitis C Cases

2024 Summary	
Number	2
Average (2014-2024)	5.9

Hepatitis C Associated Deaths

Figure 20: Rates of Hepatitis C Deaths for Orange County, California and the US (2015-2023)*



*Crude rate of death with either acute or chronic hepatitis C coded on the death certificate. See technical notes for additional details. Data available through 2023.

Table 14: Hepatitis C Associated Deaths

2023 Summary	
Number	79

CONCLUSION AND RECOMMENDATIONS FOR USE

Orange County continues to observe a low incidence of hepatitis A and low rates of new, acute hepatitis B infections, with levels consistently below state and national benchmarks. In contrast, the county has a higher prevalence of chronic hepatitis B compared to California and the United States, a pattern likely driven by migration from regions where hepatitis B is endemic rather than ongoing local transmission. Because individuals living with chronic hepatitis B require ongoing clinical monitoring and supportive services due to the absence of curative therapy and increased risk of cirrhosis, hepatic decompensation, and hepatocellular carcinoma, sustained efforts to ensure access to care remain essential.

Chronic hepatitis C rates in Orange County have remained relatively stable over the past five years following a marked decline through 2020. With curative direct-acting antiviral (DAA) therapy now widely available, further reductions in hepatitis C burden will depend on identifying and mitigating barriers to screening, linkage to care, treatment initiation, and treatment completion.

This summary is intended to support clinicians, public health partners, and organizations involved in viral hepatitis prevention, diagnosis, and management. Moving forward, these findings can help inform targeted interventions, guide resource allocation, and strengthen collaborative efforts aimed at reducing hepatitis-related morbidity and mortality across Orange County.

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APPENDIX A

Abbreviations

HBIG	Hepatitis B Immunoglobulin
HepB	Hepatitis B Vaccine
HBV	Hepatitis B Virus
HAV	Hepatitis A Virus
HepA	Hepatitis A Vaccine
HCV	Hepatitis C Virus
HBV DNA	HBV Specific DNA
HCV AB+	Hepatitis C Antibody Positive
HCV RNA	HCV specific RNA
DAA	Direct Acting Antiviral

APPENDIX B

Technical Notes

Hepatitis A

- Current case definition: <https://ndc.services.cdc.gov/case-definitions/hepatitis-a-acute-2019/>
- 2023 CDC Hepatitis A Surveillance Report: <https://www.cdc.gov/hepatitis/php/statistics-surveillance/index.html>

Hepatitis B

- Current case definitions: <https://ndc.services.cdc.gov/case-definitions/hepatitis-b-acute-and-chronic-2024/>
- 2023 CDC Hepatitis B Surveillance Report: <https://www.cdc.gov/hepatitis/php/statistics-surveillance/index.html>
- New infection - number of deduplicated people with laboratory evidence (HBsAg and/or HBV DNA positive) of chronic hepatitis B infection not previously reported to the HCA. The HCA does not have the ability to identify if a person was previously reported in another jurisdiction. Electronic laboratory data became available starting in 2013.
- Testing Positive - number of deduplicated people with laboratory evidence of chronic hepatitis B infection in a specific year. This number includes both new and previously known infections.
- Cumulative infections - number of deduplicated people who ever had laboratory evidence of chronic hepatitis B infection, whether living or have died.

Hepatitis C

- Current case definitions:
- Acute: <https://ndc.services.cdc.gov/case-definitions/hepatitis-c-acute-2020/>
- Chronic: <https://ndc.services.cdc.gov/case-definitions/hepatitis-c-chronic-2020/>
- 2023 CDC Hepatitis C Surveillance Report: <https://www.cdc.gov/hepatitis/php/statistics-surveillance/index.html>
- New infection - number of deduplicated people with laboratory evidence (HCV RNA positive) of chronic hepatitis C infection not previously reported to the HCA. The HCA does not have the ability to identify if a person was previously reported in another jurisdiction. Electronic laboratory data became available starting in 2013.
- Testing Positive - number of deduplicated people with laboratory evidence of chronic hepatitis C infection in a specific year. This number includes both new and previously known infections.



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