Viral hepatitis annual report

2020

Utah Department of
Health & Human
Services

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Introduction

Hepatitis is inflammation of the liver. Hepatitis A virus (HAV), hepatitis B virus (HBV), and hepatitis C virus (HCV) are some of the most common types of viral hepatitis. Hepatitis A is a vaccine-preventable liver infection caused by the hepatitis A virus (HAV). It is spread when someone unknowingly ingests the virus—even in microscopic amounts—through close personal contact with an infected person or through consumption of contaminated food or drink. Most people with hepatitis A do not have long-lasting illness. HBV is spread through blood, sexual fluid, or other body fluids. HCV is spread through blood only. While HAV and HBV are vaccine-preventable, there are currently no curative treatments. There is no vaccine available for HCV, but highly effective medication is available to clear the virus. Illness from viral hepatitis may last a few weeks (acute) or become a lifelong illness (chronic; HBV and HCV only). Acute HBV and HCV infection can range in severity from a very mild illness with few or no symptoms to a serious condition which requires hospitalization, while chronic infection can cause serious health problems, including liver disease, liver failure, liver cancer, and even death. Symptoms, including fever, fatigue, loss of appetite, nausea, vomiting, dark urine, gray-colored stool, joint pain, and yellow skin and eyes, are common with HAV but rare with HBV and HCV.

The Utah Department of Health and Human Services (DHHS) Disease Response, Evaluation, Analysis, and Monitoring (DREAM) Program's Viral Hepatitis Program manages and conducts surveillance for viral hepatitis cases, which are reportable conditions in Utah through Utah Administrative Code, Title R386-702 Communicable Disease Rule (CD rule). Labs reporting electronically are required to report both negative and positive results. More than 90% of labs in Utah report electronically. Demographics, risk factors, and laboratory results are collected in the National Electronic Disease Surveillance System (NEDSS), called EpiTrax. This report presents hepatitis A, B, and C surveillance data collected by DHHS in 2020.

State demographics

Utah is primarily a desert state with most of the population gathered along the Wasatch mountains near the natural snowmelt watersheds. A large majority of the state's land is considered rural with 7 of the 13 local health district's (LHD) populations being less than 3% of the entire state's population. At the end of 2020, the state's total population was

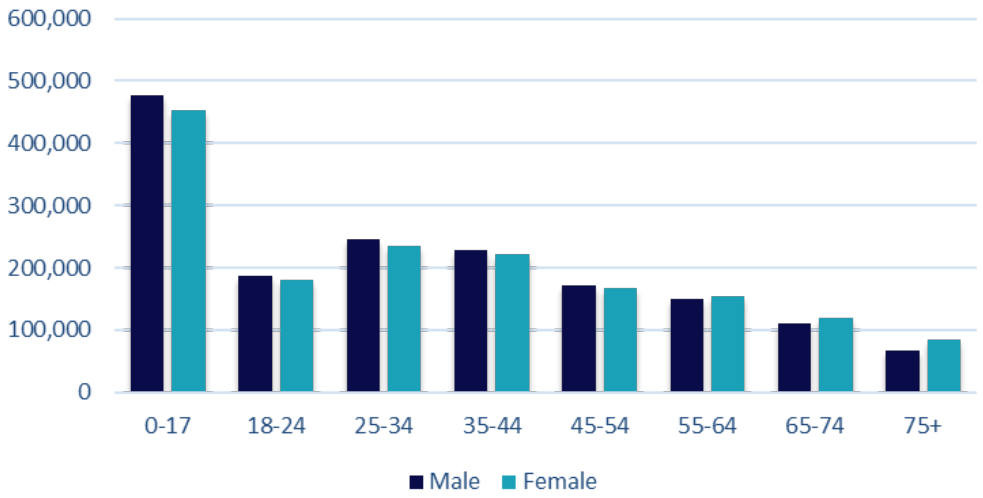
estimated at 3,249,879 and divided evenly between male and female residents with a large youth population and healthy reproductive-age population.

Population by local health district (LHD), 2020

LHD	Population (%)	LHD Map
Bear River	189,463 (5.8)	
Central	82,854 (2.5)	
Davis	359,232 (11.1)	
Salt Lake County	1,165,517 (35.9)	
San Juan	15,728 (0.5)	
Southeast	40,703 (1.3)	
Southwest	261,452 (8.0)	
Summit	42,499 (1.3)	
Tooele	74,512 (2.3)	
TriCounty	56,890 (1.8)	
Utah	651,059 (20.0)	
Wasatch	35,300 (1.1)	
Weber-Morgan	275,120 (8.4)	
Total	**3,249,879 (100)**	

Note: LHD Map from "Local Health Districts" by The Utah Department of Health and Human Services, Division of Data, Systems, and Evaluation, 2022, Public Health Indicator Based Information System (IBIS), "Map of Utah's 13 local health districts" (https://ibis.health.utah.gov/ibisph-view/about/LocalHealth.html).

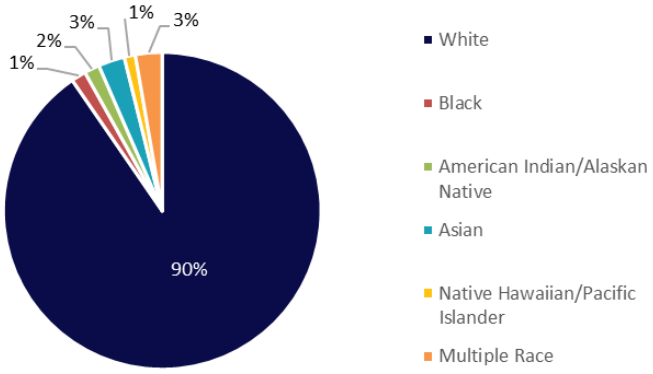
Population by age group and sex, 2020



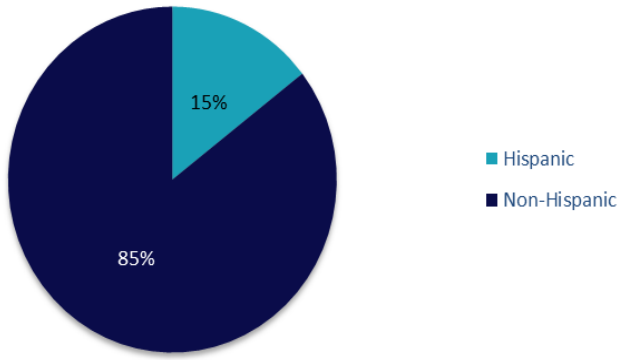
Race and ethnicity

Utahns who identify as White make up 90% of the population. The next largest racial group is persons who are Asian, at only 3%. Utah also has a growing number of residents who identify as Hispanic at about 15%.

Population proportion by race, 2020



Population proportion by ethnicity, 2020



Hepatitis A virus (HAV)

Although anyone can get hepatitis A, certain groups of people are at higher risk for getting infected including international travelers, men who have sex with men (MSM), people who use injection or noninjection drugs, people with occupational risk for exposure, and people experiencing homelessness. Hepatitis A is a reportable disease in Utah and surveillance data are used to detect outbreaks, monitor disease incidence, determine the epidemiologic characteristics of infected persons, identify sources of infection, and assess and reduce missed opportunities for vaccination. While the average number of annual hepatitis A infections reported to CDC in recent years has declined substantially, fluctuations have occurred due to some large outbreaks. In recent years, hepatitis A outbreaks have occurred from several different sources including foodborne and person-to-person transmission. Most recently, hepatitis A outbreaks have been identified in Utah among people who use drugs, people who experience homelessness, and MSM. Increased vaccination efforts to target adults in at-risk populations can help limit the size, duration, and spread of person-to-person outbreaks.

Acute HAV cases reported, 2020	Acute HAV cases per 100,000 population, 2020
12	0.4

Groups most affected by hepatitis A, Utah, 2020

By age

30–39 years: 0.7 cases per 100,000 people
50–59 years: 1.3 cases per 100,000 people
>60 years: 0.6 cases per 100,000 people

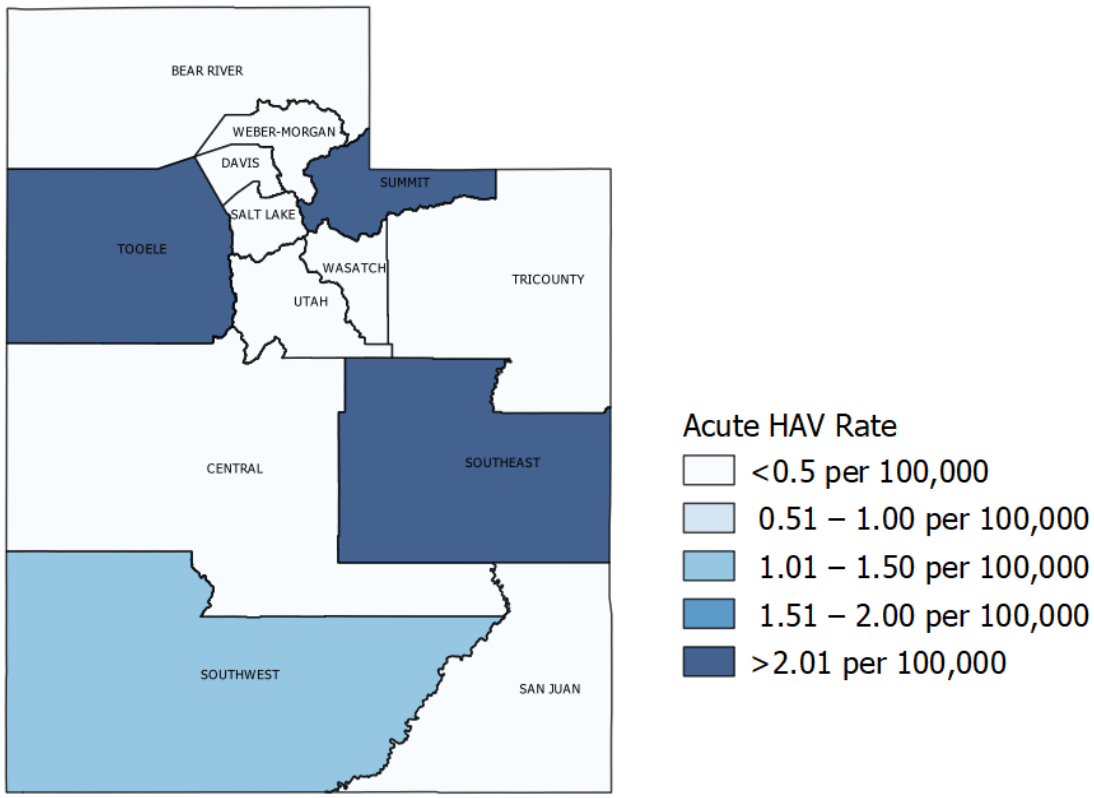
By sex

Females: 0.5 cases per 100,000 people

By race/ethnicity

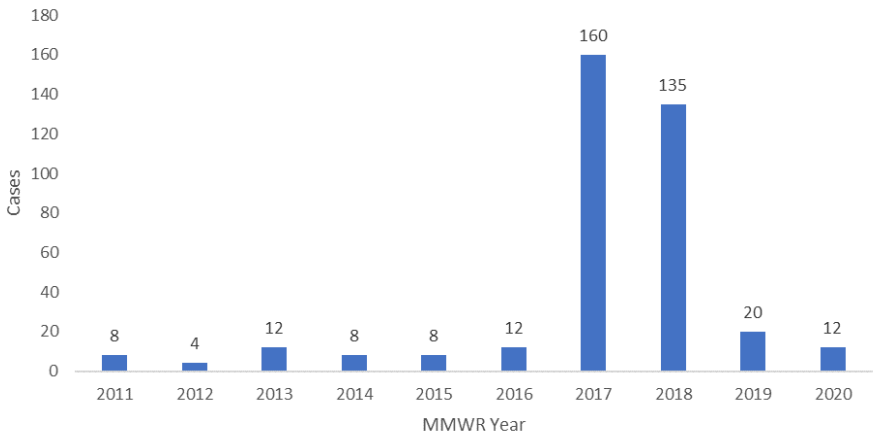
White, non-Hispanic people: 0.3 cases per 100,000 people

Acute hepatitis A rates by LHD, Utah, 2020

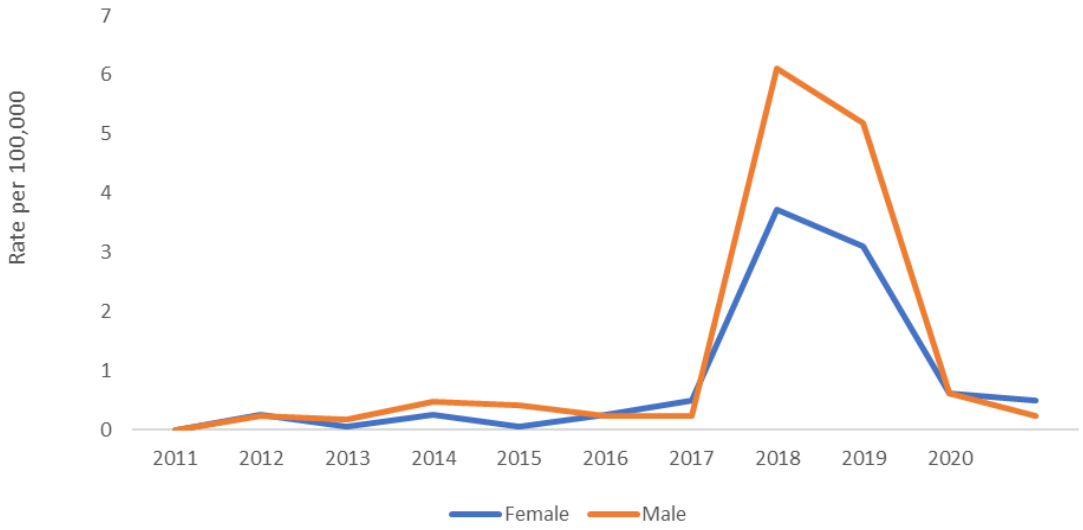


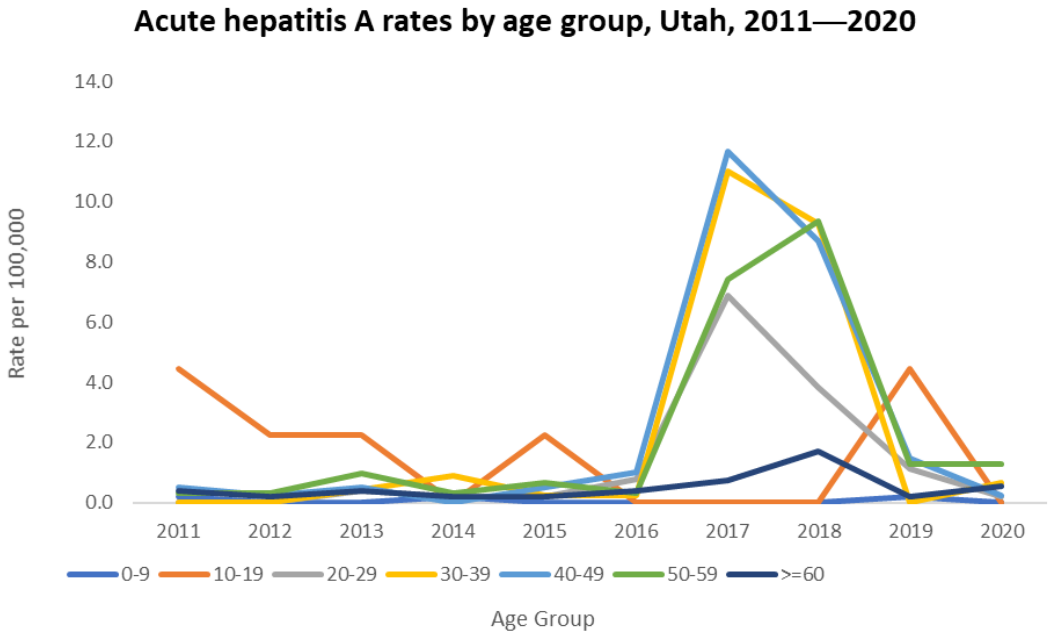
There was a >10-fold increase in hepatitis A cases in 2017—18 compared to the previous baseline with a return to expected numbers in 2019—2020. The increase in 2017—2018 was due to unprecedented person-to-person outbreaks reported in Utah, primarily among people who use drugs and people who experience homelessness.

Acute hepatitis A cases by year, Utah, 2011—2020



Acute hepatitis A rates by sex, Utah, 2011—2020





Hepatitis B virus (HBV)

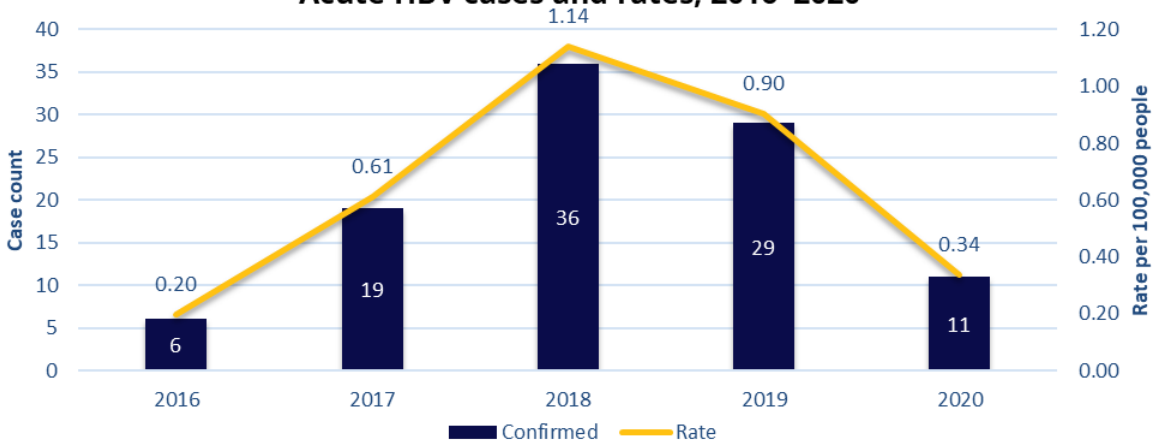
While HBV is the most prevalent hepatitis worldwide, routine childhood HBV vaccination in the United States (US) has dropped rates of infection nationally and in Utah. Per the Utah Communicable Disease Rule, any hepatitis B surface antigen (HBsAg) positive result detected in any person is reportable to public health. Most infections in Utah are from non-US born individuals and are disproportionately persons who are non-white. In 2020 the rate of cases was significantly higher in persons who are Native Hawaiian/Pacific Islander and Asian while the age distribution had more variation. In the past 5 years, Utah has, at most, only had 36 acute cases (in 2018). In 2020, Utah saw a significant decrease in cases from 2019 with only 11 acute cases and 60 chronic cases. This decrease is most likely due to an emphasis by health care providers, testers, and local health jurisdictions on COVID-19 response rather than a true decrease.

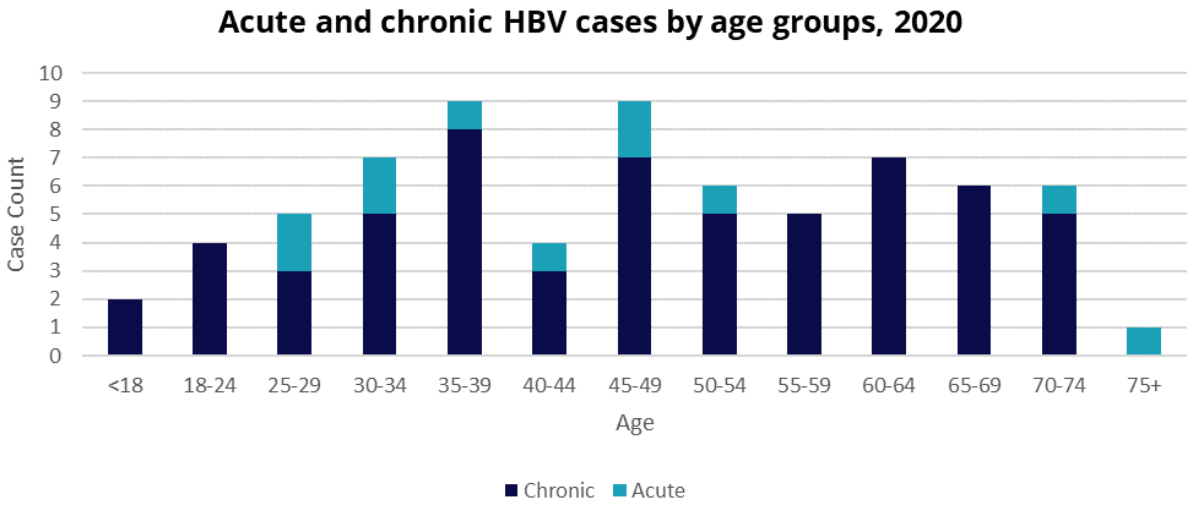
Acute and chronic cases reported, 2020	Cases per 100,000 population, 2020
71	2.18

Groups most affected by hepatitis B

By age	By sex	By race/ethnicity
25–34 years: **2.5 cases** per 100,000 people 45–54 years: **4.4 cases** per 100,000 people	Males: **2.3 cases** per 100,000 people	Persons who are Black: **14.4 cases** per 100,000 people Persons who are Asian: **17.2 cases** per 100,000 people Persons who are Native Hawaiian/Pacific Islander: **19.1** cases per 100,000 people

Acute HBV cases and rates, 2016–2020





HBV (acute and chronic) cases by race/ethnicity, 2020. (n=71)

Race/Ethnicity	Rate (per 100,000)	95% CI
White	1.02	0.65–1.39
Black	14.43	3.74–25.12
American Indian/Alaskan Native	0.00	0.00–0.00
Asian	17.21	8.50–25.92
Native Hawaiian/Pacific Islander	19.14	4.96–33.32
Multiple Race	0.00	0.00–0.00
Hispanic	0.85	0.02–1.68
Non-Hispanic	2.02	1.49–2.54

Vaccination rate

The most currently available hepatitis B vaccination data on childhood comes from the 2019 National Immunization Survey (NIS), which reports childhood vaccination data for children aged 24 months per birth year. In Utah, the estimated HBV vaccination coverage among children aged 24 months in 2017 (most recently available year of data) was 94.4%, which was on par with the estimated US coverage rate of 91.4%. According to data from the Utah Statewide Immunization Information System (USIIS), only 89.2% of children aged 24 months in 2017 were fully immunized for HBV. Among adults aged 19 and older with records in USIIS, 26.4% had 3 or more doses of HBV vaccine which is similar to the national coverage rate reported in 2017 at 25.8%. USIIS data is, however, limited. Providers are not required to report immunizations into the database and the database does not contain immunization records from out of state. This may explain the discrepancy between USIIS data and estimated US data.

Perinatal hepatitis B

In Utah, the disease burden of hepatitis B in pregnancy is relatively low, with about 60–80 infected pregnant women identified annually. In order to prevent vertical transmission of hepatitis B, testing is routine for each pregnancy. Public health follows up on all children born to HBV positive persons to ensure hepatitis B immune globulin (HBIG) is administered at birth, followed by a complete hepatitis B vaccine series and post vaccination serologic testing (PVST). In addition, their infants and household contacts are identified and become managed cases. There have been no cases of perinatal hepatitis B infection passed from gestational parent to infant reported in Utah in the last 5 years.

Acute hepatitis C virus (HCV)

Beginning in 2016, Utah implemented enhanced surveillance for cases of acute hepatitis C, to obtain risk and exposure data. All acute case investigations are attempted by the local jurisdiction in which they are identified. In 2020, 144 acute and 1,055 chronic cases were reported statewide. While there was a small decrease in the number of cases, this was not significant, meaning it was likely just a fluctuation rather than a true decrease. Any change was likely due to an emphasis on COVID-19 response and the lack of testing associated with increased home isolation and quarantine throughout the year rather than a true decrease in acute cases. The greatest number of cases occur in jurisdictions along the Wasatch Front but the greatest rate was in southeastern Utah in Emery and Carbon

counties. These counties were identified as areas of concern in a 2018 CDC vulnerability assessment among people who inject drugs by small area. Of the 144 acute HCV cases in 2020, 56% reported injecting drugs, 34% reported non-injection drug use, and 25% reported incarceration as risk factors.

In 2020, the Council for State and Territorial Epidemiologists (CSTE) updated the HCV case definition to address that the majority of cases are asymptomatic. The new definition of an acute case dropped the symptom requirement in favor of elevated liver function via alanine transaminase (ALT) (>200 IU/L) and/or peak elevated bilirubin levels (≥3.0 mg/dL) in addition to a positive antibody test or viral load with the absence of a more likely diagnosis. This change in definition led to Utah seeing a 95% increase in acute cases that would have otherwise been chronic.

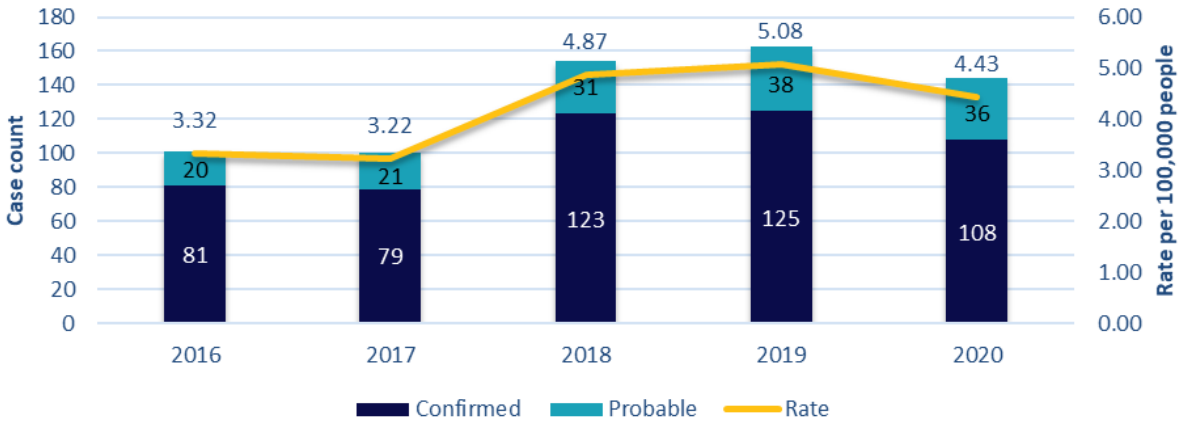
The CDC also augmented their hepatitis C screening recommendations issued in 2012. In addition to routine testing for persons with ongoing risk factors, the CDC now advises at least once in a lifetime screening for all adults 18 and older and a screening for all pregnant persons for each pregnancy.

Acute cases reported, 2020	Rate per 100,000 people
144	**4.43**

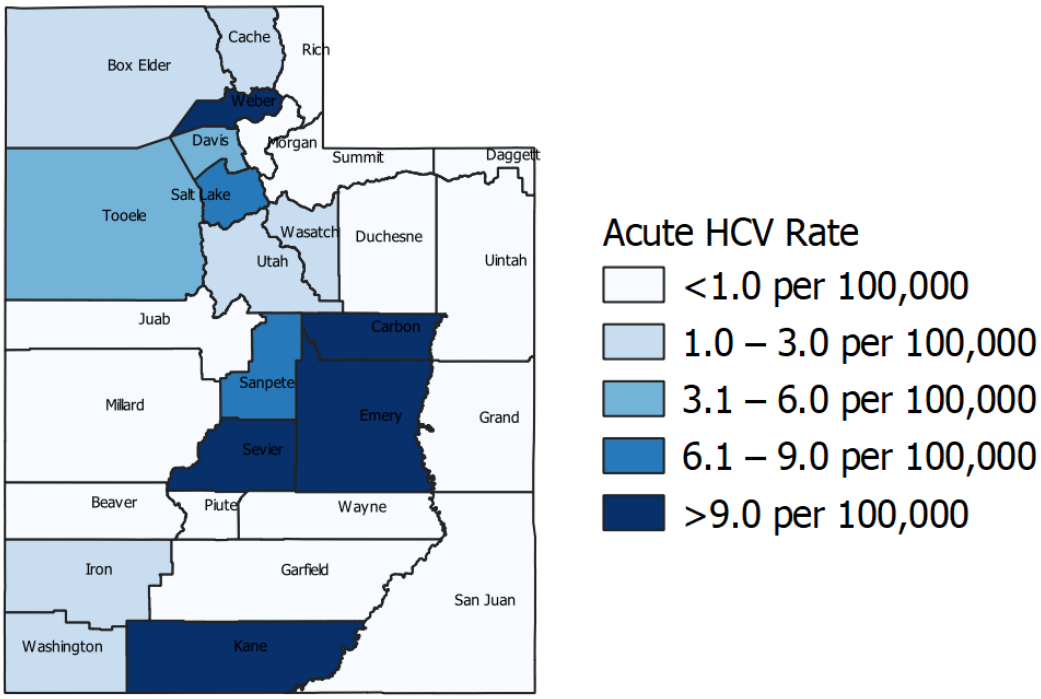
Groups most affected by acute hepatitis C

By sex	By race/ethnicity	By age
Males: **5.5 cases** per 100,000 people	Persons who are Native Hawaiian/Pacific Islander: **8.2 cases** per 100,000 people	Age 25–34: **12.1 cases** per 100,000 people
	Persons who are American Indian/Alaska Native: **7.9 cases** per 100,000 people	

Acute HCV cases and rates, 2016–2020



Acute HCV Rates by County, Utah, 2020

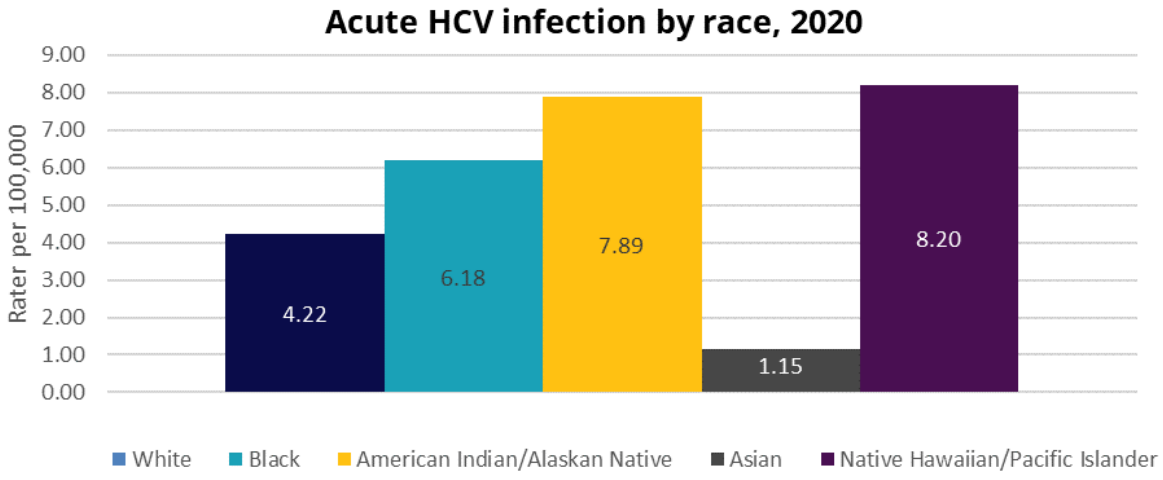


HCV is transmitted through blood to blood contact. In order to determine the likely cause of acute HCV infection in Utah, each acute case is investigated to determine the individual's exposures based on possible blood to blood contact. These data help guide intervention strategies to prevent outbreaks among populations who engage in certain behaviors, such as smoking or injecting drugs. In general, **injection drug use** is the most common health risk among cases and can be prevented by safer injection practices such as not sharing equipment.

Exposures of investigated acute HCV cases, 2020

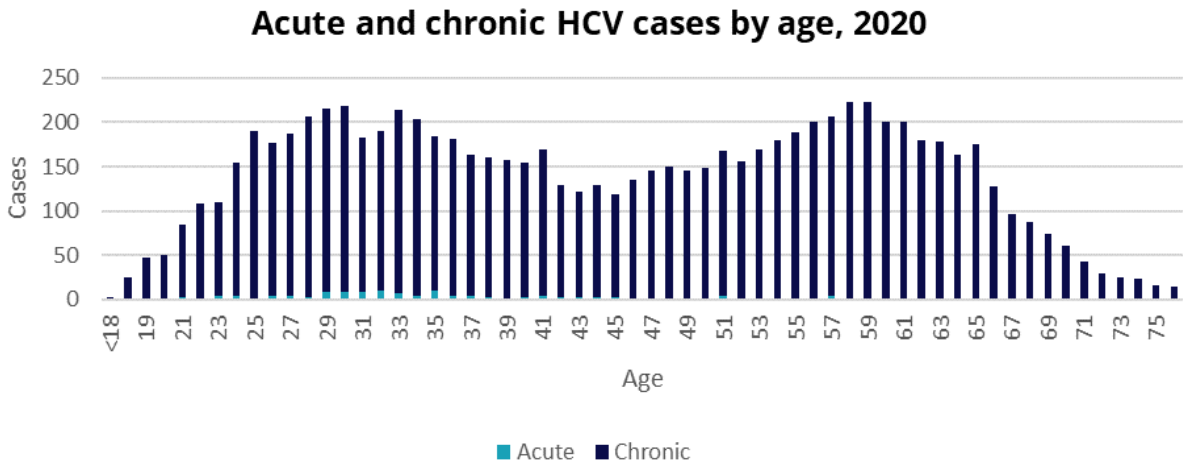
Risk factor	% of cases
Sexual contact	3
Past incarceration	25
Injection drug use	54
Non-injection drug use	36
Unknown	28

While Utah's population is overwhelmingly white, acute HCV disproportionately affects people who are American Indian/Alaska Natives and Native Hawaiian/Pacific Islander.



The age distribution of HCV is described as bimodal with 2 main age groups mostly infected. The majority of cases occur among young adults and baby boomers. Historically, baby boomers have had the highest rates of chronic infection as a result of the relatively

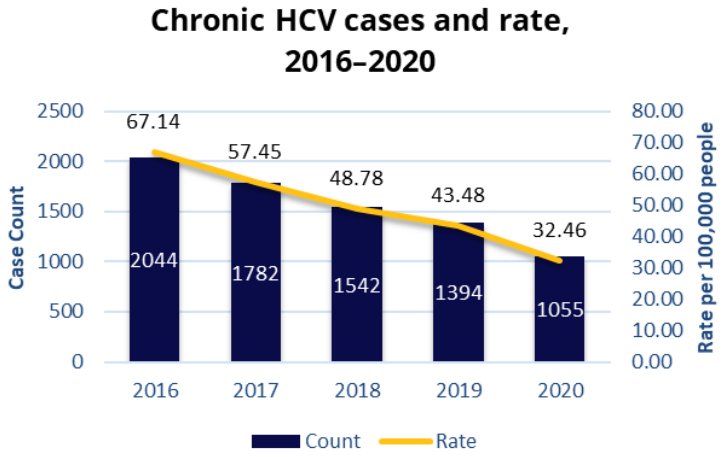
recent development of universal precautions and universal blood screening in 1985 due to the discovery of HIV and the discovery of HCV in 1989. However, within the last 10 years there has been an increase in HCV infections among 25–35 year olds. The United States has been in the middle of an opioid epidemic for the past several years driven by the misuse of prescription and illicit opioids. This increase in drug use has led to overlapping epidemics of opioid use disorder, HIV, and HCV among young adults who use and inject opioids.



Chronic hepatitis C virus (HCV)

Chronic HCV counts continued to trend downward in 2020 as in previous years. The trend can likely be attributed to a variety of factors, including the increase in acute case finding, increase in availability and practice of confirmatory testing and negative reporting to rule out cases who have self-resolved or have been treated, and the availability of highly effective and affordable treatments. Unfortunately, limited funding and investigation capacity restricts data available for chronic hepatitis C. Many of the data available in acute cases are not available for chronic cases.

Chronic cases reported, 2020	Rate per 100,000 people
1,055	32.46



Chronic HCV cases and rate by LHD, Utah, 2020

LHD	Cases	Rate (per 100,000)	95% CI
Bear River	30	15.83	10.17–21.50
Central	27	32.59	20.30–44.88
Davis	84	23.38	18.38–28.38
Salt Lake County	515	44.19	40.37–48.00
San Juan	<5	12.72	0.00–30.34
Southeast	23	56.50	33.41–79.60
Southwest	90	34.42	27.31–41.54
Summit	<5	4.71	0.00–11.23
Tooele	31	41.60	26.96–56.25
TriCounty	23	40.43	23.91–56.95
Utah	107	16.43	13.32–19.55
Wasatch	8	22.66	6.96–38.37
Weber-Morgan	113	41.07	33.50–48.65

HCV care cascade

Below is the HCV surveillance based care cascade. It is intended to show the effectiveness of Utah's efforts to identify those infected with hepatitis C through screening and treat those with active infections within a given year. In 2020, 1,855 individuals screened positive for anti-HCV antibodies. Of those, 66% received a subsequent PCR test at some point in 2020. A little more than half of those tested were PCR positive with the other half having cleared the virus prior to their test. Only 17% of PCR positive individuals had evidence of clearing the virus via a repeat PCR test that was negative within 2020. These data were derived from surveillance data and it is important to note they have their limitations (only looked at lab results from 2020, no account for false positives/negatives, unable to determine treatment vs. self-resolved cases, PCR cleared number only accounts for those receiving repeat testing) and should only be taken as a rough estimate from Utah's most readily available data source.

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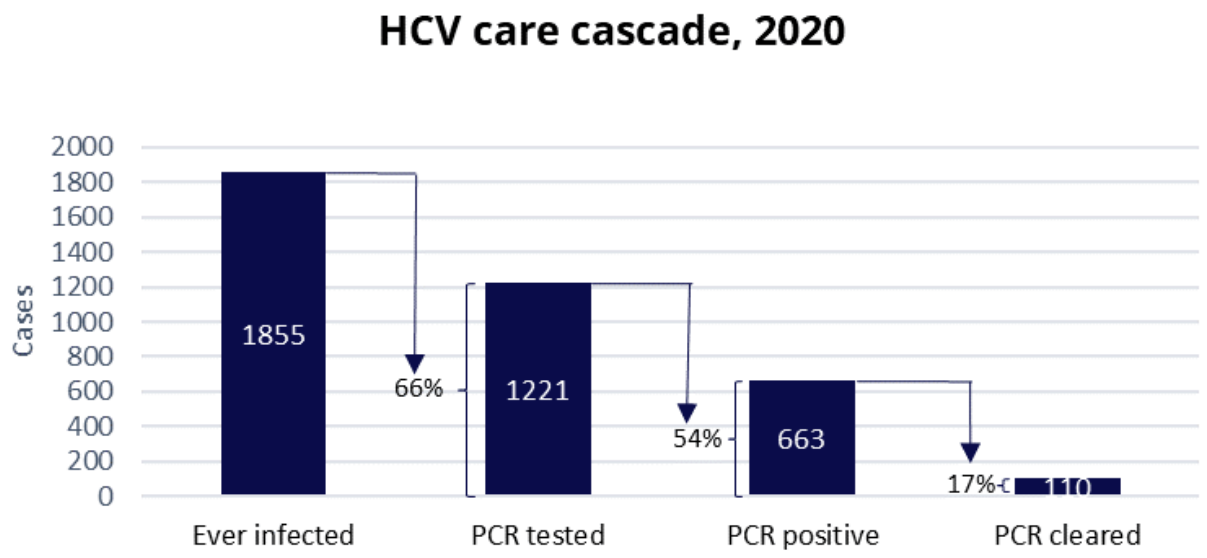

Perinatal hepatitis C

The disease burden of perinatal hepatitis C in Utah is very low (<5 cases per year). Per the Utah Communicable Disease Rule, pregnancy in an HCV positive person is reportable to public health, as is any clinical diagnosis and/or a positive hepatitis C lab in a child ≤36 months of age. There is currently not a public health process for follow-up with HCV positive pregnant persons or children born to HCV positive persons; however state and local public health officials have begun working on a plan to implement tracking, education, and follow-up with these groups.

Insurance coverage

Given the cost of hepatitis-related treatments and immunizations, insurance plays an important role in delivering care to those infected. In 2020, 11.8% of Uthans were without health insurance (BRFSS, year). As of September 2020, Utah had 365,322 (11%) individuals enrolled in Medicaid and the Children's Health Insurance Program (CHIP). Utah Medicaid operates as a fee-for-service (FFS) program and contracts with managed care organizations (MCOs). Most beneficiaries (more than 75%) are enrolled in an MCO. The remaining beneficiaries participate in FFS. Utah utilizes 4 MCOs: Steward Health Choice Utah (Health Choice), Health Plans University of Utah (Healthy U), Molina Healthcare (Molina), and SelectHealth Community Care (SelectHealth). These MCOs vary in restrictions for HCV

treatment prior to authorization, which complicates the treatment process. Fortunately, these MCOs are trending toward fewer to no restrictions as data on treatment adherence grows. Another common hurdle to care is restrictions that only allow treatment to those without liver damage or who are able to pass sobriety restrictions. Utah's Medicaid fee-for-service program does not have these restrictions. Medicaid allows general practitioners to provide this medication and only requires a prescription for medication be written **in consultation** with a specialist for patients who are not treatment-naive and/or under specific circumstances. The utilization of Project ECHO has helped expand treatment access in rural areas where specialists are limited or do not exist.

Partner services

DHHS provides a limited number of rapid HCV test kits to community-based organizations (CBOs) and local health jurisdictions in an effort to target and screen populations at risk for hepatitis C. The majority of supported CBOs provide syringe services and/or opioid treatment. Tests are free of charge for any person who has a history of injecting or using drugs. In 2020, 215 Utah DHHS provided tests were used by CBOs. The tests yielded a 24% positivity rate overall.

Project ECHO is a technology-enabled collaborative learning platform for health care providers that began in New Mexico in 2003. The aim of the project was to improve health care in rural and underserved populations by bringing access to specialist care where there is limited to none available via telehealth. The University of Utah was the third site in the world to replicate the ECHO model in 2011 and has been enabling treatment of HCV patients in these underserved areas. In 2020, 379 cases were presented and initiated HCV treatment that would otherwise not have begun treatment.

For the Hepatitis C Resource Guide, click here.