

Hepatitis A, B, and C Surveillance, Allegheny County, 2021

Introduction

Hepatitis A is a vaccine-preventable liver infection caused by the hepatitis A virus. People who get hepatitis A don't always have symptoms, but those who do may experience symptoms like jaundice, stomach pain, nausea, and diarrhea for a few weeks or months. Most people recover completely from hepatitis A and do not have lasting liver damage. In rare cases, hepatitis A can cause liver failure and even death; this is more common in older people and in people with other serious health issues, such as chronic liver disease.¹

Hepatitis A is highly contagious virus found in an infected person's blood or feces. Most often, it is spread through close personal contact, such as through certain types of sexual contact, caring for someone who is ill, or using drugs with others. Although uncommon in the United States, hepatitis A can also spread by eating contaminated food.¹

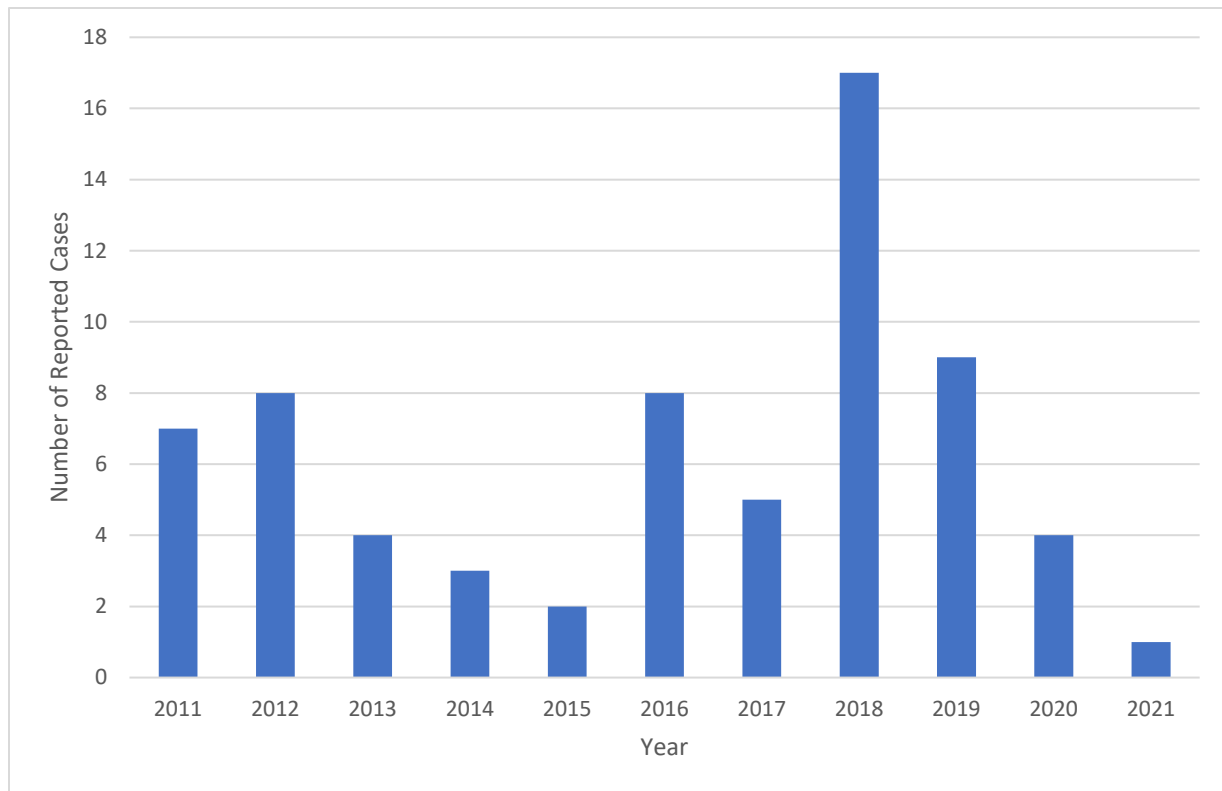
Hepatitis A usually goes away on its own. Most doctors advise people with hepatitis A to rest, get adequate nutrition, and drink plenty of fluids. In severe cases, patients may have to receive medical care at the hospital.¹

Hepatitis A Infection

Cases of hepatitis A are rare in the United States. According to CDC, there were a total of 9,952 hepatitis A cases reported in 2020. However, because not everyone has symptoms or gets diagnosed, the actual number of cases occurring in that year was probably closer to 19,900. Cases in the US have increased since 2015, with outbreaks occurring most often among people who use injection drugs or experience homelessness.^{1,2}

Allegheny County saw the highest number of hepatitis A cases in 2018, when 17 cases were reported, but since then the number of cases has been low. In 2020, there were four reported cases of Hepatitis A in Allegheny County, and only one reported case in 2021 (Figure 1). The crude incidence rate for hepatitis A was lower in Allegheny County in 2021 (0.08 per 100,000) than in PA as a whole (2.0 per 100,000).

Figure 1: Reported Confirmed Hepatitis A Infections by Year, Allegheny County



Deaths Associated with Hepatitis A

Hepatitis A does not often result in death. From 2016 through 2020, only 179 people in the United States,³ and only 16 people in Pennsylvania had hepatitis A listed on their death certificates.⁴

Prevention

The best way to prevent hepatitis A is by getting vaccinated. While childhood vaccination against hepatitis A has been routine since 2006, many adults have not received the vaccine and may be at risk for severe disease. Although hepatitis A is very contagious, you can take the following steps to prevent infection:

- Get vaccinated against hepatitis A
- Wash your hands with soap and water after using the bathroom, changing diapers, and before preparing, serving or eating food
- Don't share food, drinks, or smoking products with other people
- Avoid eating raw oysters

- Do not share towels, toothbrushes and eating utensils
- Don't have oral-anal sex with someone who has hepatitis A

Resources: <https://www.cdc.gov/hepatitis/hav/pdfs/hepageneralfactsheet.pdf>

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Hepatitis B Surveillance, Allegheny County, 2021

Introduction

Hepatitis B is a vaccine-preventable liver infection caused by the hepatitis B virus. It is spread by contact with bodily fluids through sex, IV drug use, or from mother to baby at birth. Hepatitis B infections can be either acute (short-term) or chronic (long-term).

Most healthy people recover from acute hepatitis B without treatment. For other people, acute hepatitis B leads to life-long infection known as chronic hepatitis B. Infants and young children are most likely to develop chronic hepatitis B if infected, but almost all people six years old and older recover completely without long-term symptoms.¹ About 25 percent of people who become chronically infected during childhood, and about 15 percent of those who become chronically infected after childhood will eventually die from serious liver conditions.¹

Currently, there is no treatment available for acute cases of hepatitis B, but people with chronic hepatitis B infections may be prescribed medication if symptoms are severe.

Vaccination remains the best method of preventing hepatitis B infections.

Hepatitis B is a reportable disease. Allegheny County conducts routine surveillance and case investigation for individuals newly diagnosed with hepatitis B.

Acute Hepatitis B

Acute hepatitis B is a short-term illness that occurs within six months after exposure. Symptoms can include fatigue, poor appetite, stomach pain, nausea, and jaundice, but not everyone experiences symptoms. Only 30 to 50 percent of people over five years old will have symptoms when newly infected with hepatitis B, and most children under five have no symptoms.¹

Because many people with acute hepatitis B do not experience symptoms, CDC estimates that the true number of cases is much higher than reported. In 2020, CDC said that there were 2,157 reported cases of acute hepatitis B, but an estimated 14,000 infections nationwide.²

In 2021, Allegheny County had two confirmed cases of acute hepatitis B.

Chronic Hepatitis B

Although there is no treatment for acute hepatitis B, most healthy adults (between 94 and 98 percent), and some infants (10 percent) clear the infection with no lasting effects.³ Infants, young children, and immunosuppressed persons with acute hepatitis B are most likely to develop a chronic hepatitis B infection. Chronic hepatitis B is a life-long infection that can cause serious health problems, including liver damage, cirrhosis, liver cancer, and death.¹

In 2021, there were 61 cases of newly diagnosed chronic HBV reported in Allegheny County, for a crude incidence rate of 4.9 per 100,000, lower than the state rate of 6.1 per 100,000. Of the 61 cases, 30 (49%)

were males, and 31(51%) were females. The 40-44 year-old age group had the most cases reported (Figure 2).

Figure 1: Newly Reported Confirmed Chronic Hepatitis B Infections by Year, Allegheny County 2012-2021

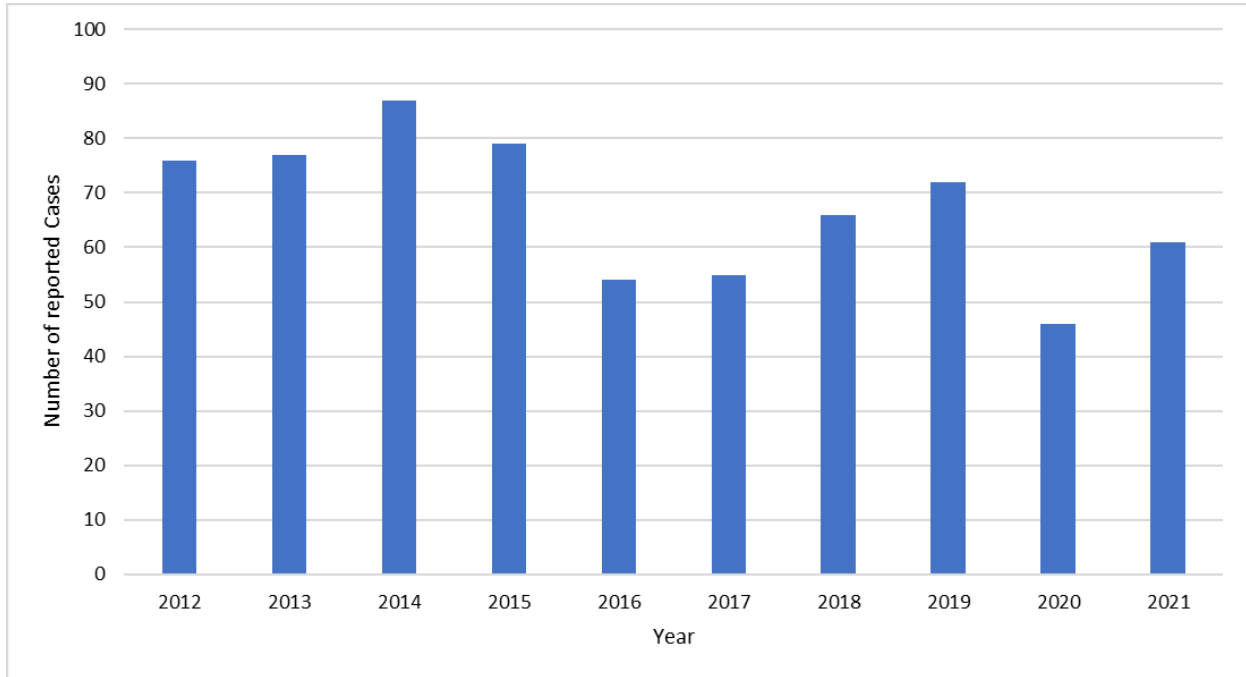
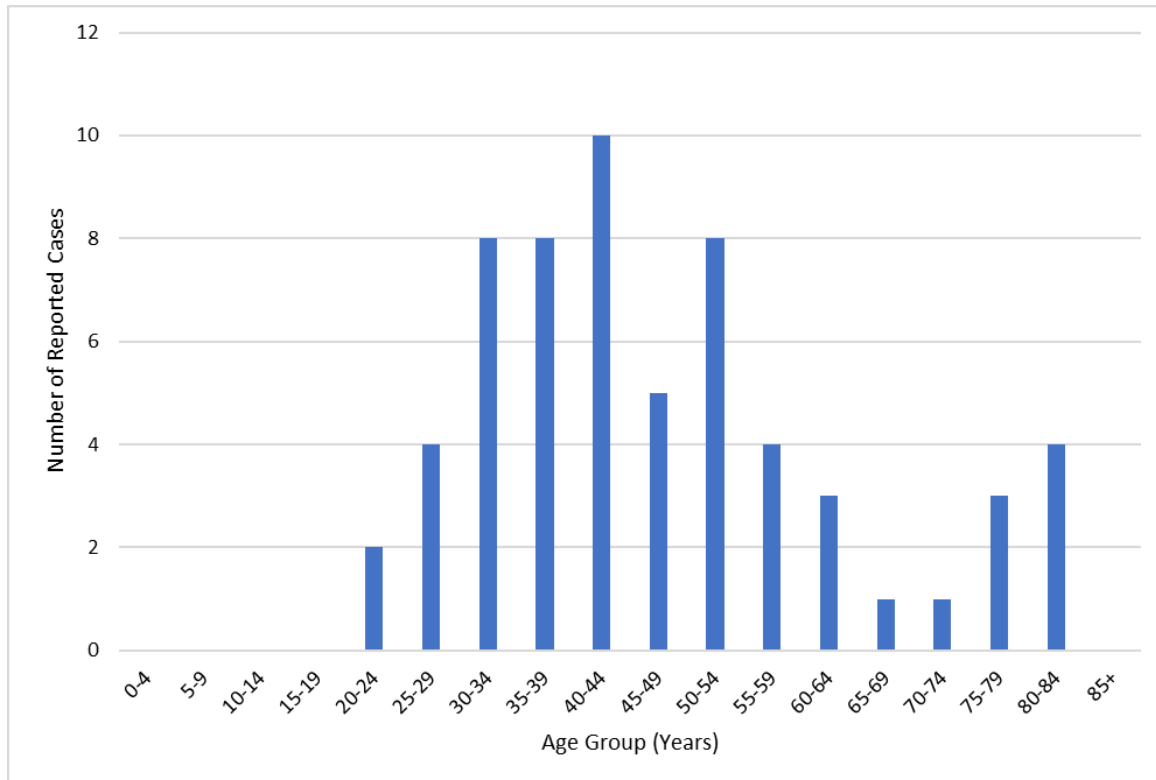


Figure 2: Newly Reported Confirmed Chronic Hepatitis B Infections by Age, Allegheny County, 2021



Perinatal Hepatitis B

Hepatitis B infection can pass from mother to infant at birth, but transmission can be prevented by providing hepatitis B immune globulin and hepatitis B vaccine to infants within 12 hours of birth. According to CDC, without intervention, approximately 40 percent of infants born to infected mothers will develop chronic hepatitis B infection.⁵

In 2021, there were 18 infants born to mothers with chronic hepatitis B infections in Allegheny County. Of these infants, all 18 received hepatitis B immune globulin and hepatitis B vaccine. No infant developed a hepatitis B infection.

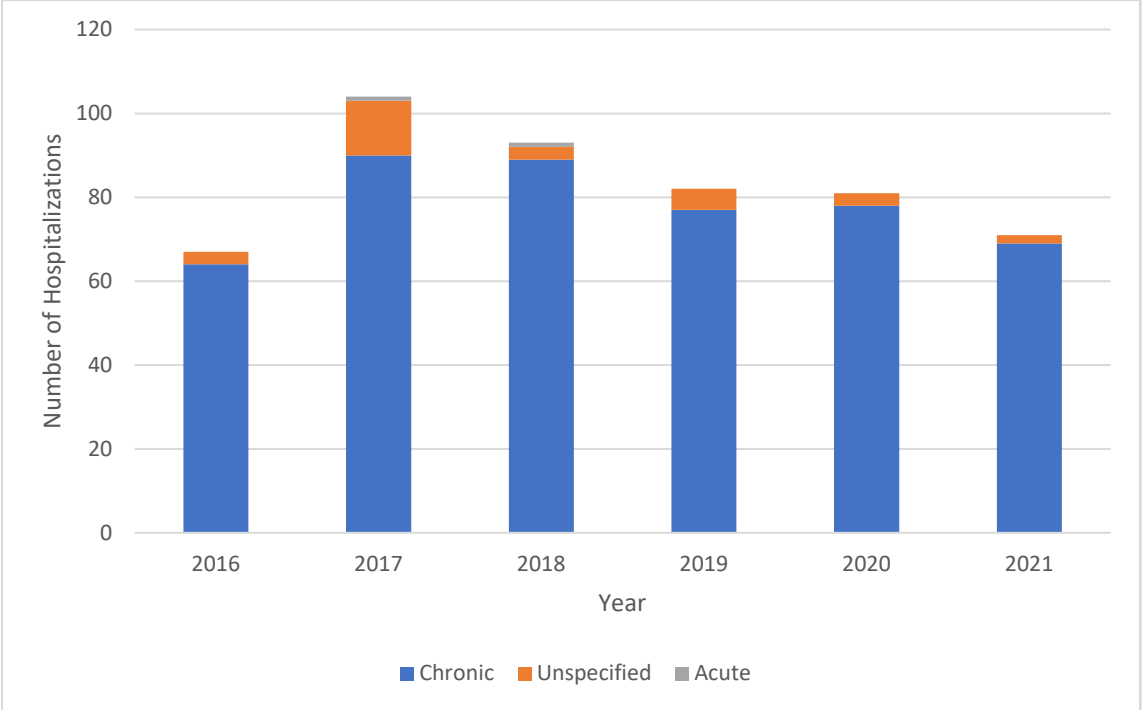
Hospitalizations Associated with Hepatitis B

Depending on the severity of symptoms, hepatitis B infections may lead to hospitalization. Most people who have hepatitis B go to the hospital for other ailments, which may be complicated by their hepatitis B infection. In 2021, 71 people in Allegheny County were hospitalized with a primary or secondary diagnosis of hepatitis B. Of these, 69 (97 percent) had chronic hepatitis B, and 2 (3 percent) had acute hepatitis B (Figure 3).

In 2021, pregnancy related concerns were among the most common primary diagnoses of people hospitalized with hepatitis B. These cases accounted for 46 percent of all hospitalizations in women, and 23 percent of hospitalizations overall.

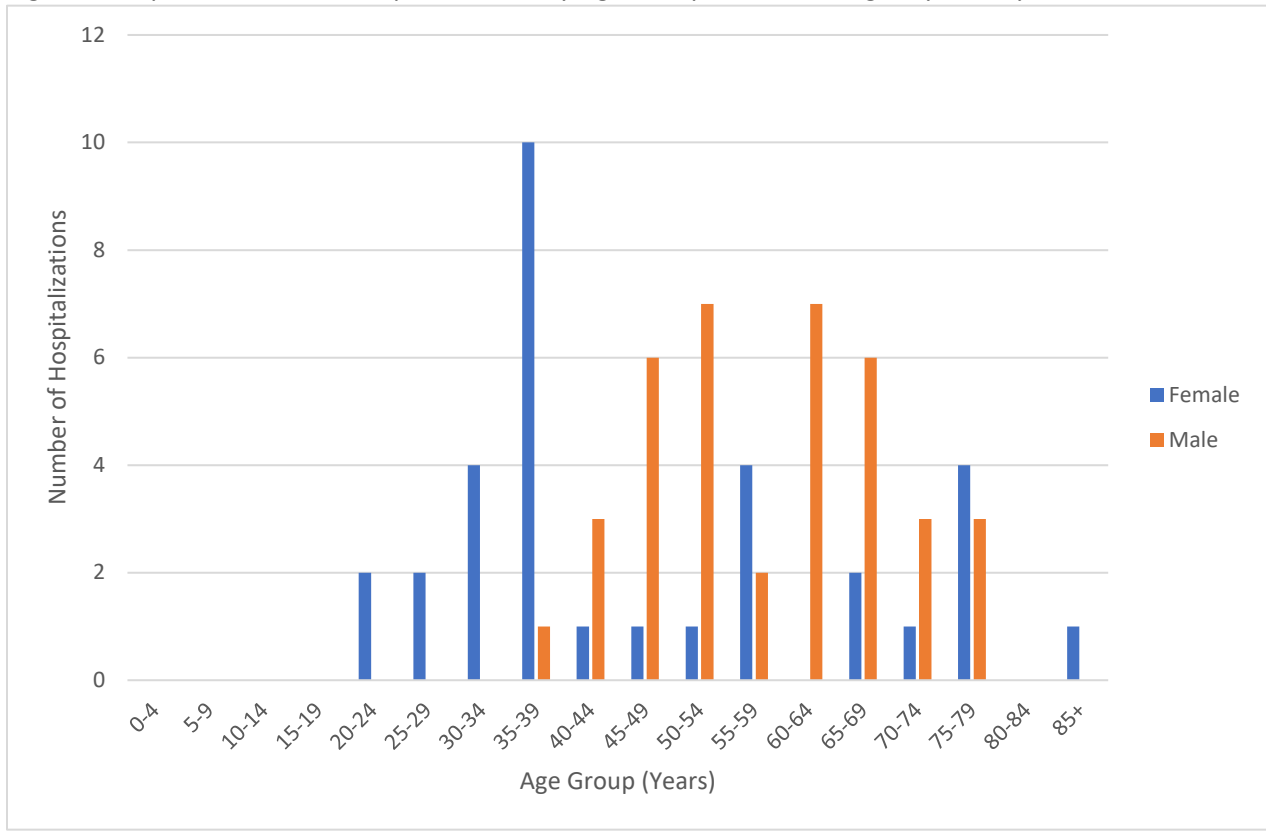
Among women who were hospitalized in 2021, 42 percent with a diagnosis of hepatitis B were between 30-39 years of age (Figure 4). The median age for women was 38 years, with a range 24-90 years, compared to a median age of 60 years for hospitalized men, with a range of 39-79 years.

Figure 3: Hepatitis B-related Hospitalizations, Allegheny County Residents, 2016-2020



Data source: Pennsylvania Health Care Cost Containment Council

Figure 4: Hepatitis B-related Hospitalizations by Age Group and Sex, Allegheny County, 2021

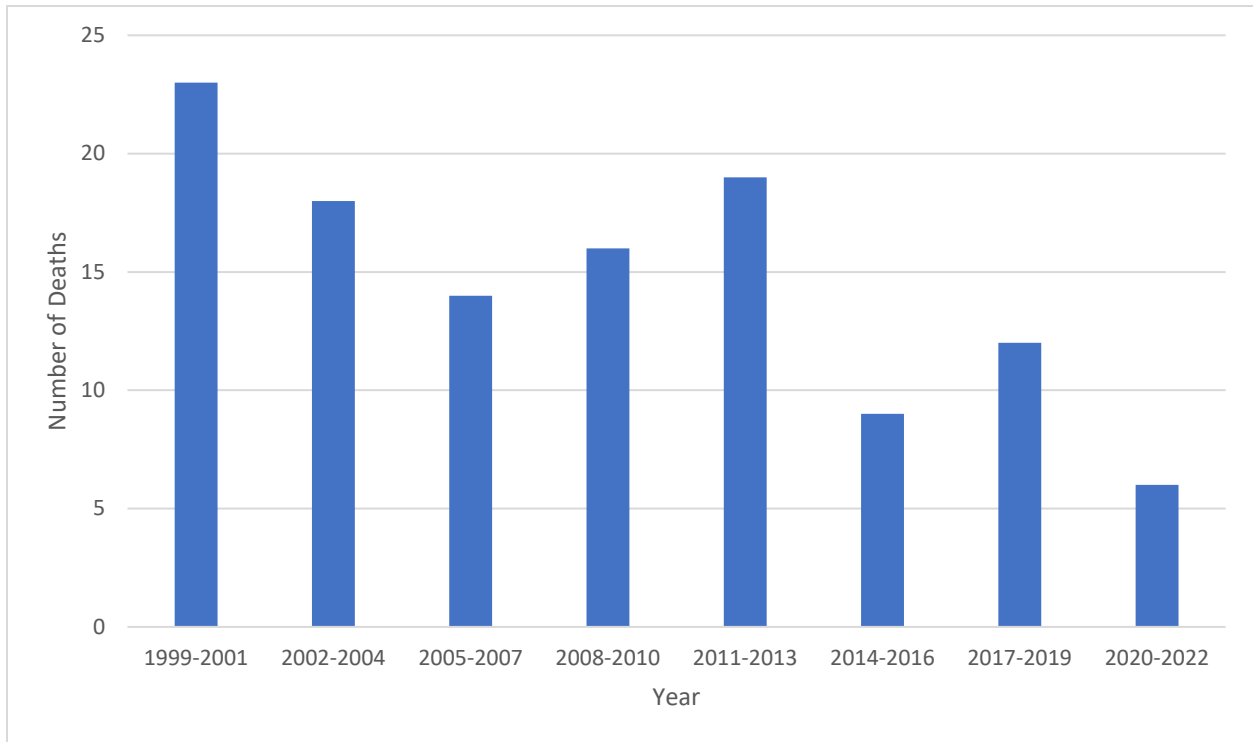


Data source: Pennsylvania Health Care Cost Containment Council

Deaths Associated with Hepatitis B

From 2020 through 2022, a total of 6 people in Allegheny County had hepatitis B listed as an underlying or contributing cause on their death certificate. Deaths attributed to hepatitis B have decreased since the 2011 – 2013 time-frame (Figure 5).⁶

Figure 5: Number of Cases with Hepatitis B Listed as a Cause of Death, 1999-2022



Data source: CDC Wonder⁶

Prevention

The best way to prevent Hepatitis B is to get vaccinated. CDC recommends that all infants and adults under 60 get vaccinated against hepatitis B. If you haven't been vaccinated, or if you're unsure if you have been vaccinated, talk with your doctor or visit [ACHD's Immunization Clinic](#).

CDC also recommends all people over 18 years old get tested for hepatitis B at least once in their lifetime.

Other ways to prevent hepatitis B:

- Never share needles
 - People who use intravenous drugs are at high risk of getting infected with hepatitis if they share needles or other equipment
- Avoid direct exposure to blood or blood products
 - Any tools that encounter blood or draw blood should be disposed of safely or sterilized
- Don't share personal care items
 - Sharing razors or tooth brushes can also be a vehicle for viral transmission since small cuts sometimes occur on the skin or gums during use
- Avoid getting a tattoo or piercing

- If getting a tattoo or piercing, ask the artist about their sanitary procedures, such as using new disposable needles and ink wells for each customer and properly using an autoclave for non-disposable supplies.
- Practice safe sex
 - Learn how to practice safe sex, thus avoiding sexually-transmitted infections, [by visiting CDC's website.](#)

Resources

- [ACHD Immunization Clinic](#) (vaccine administration)
- [ACHD Public Health Clinic \(HIV/STD\)](#) (hepatitis B testing)
- [CDC Patient Education Resources](#)
- [CDC Resources for Health Professionals](#)
- [Hepatitis B Infographic](#)

References:

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Hepatitis C Surveillance, Allegheny County, 2021

Hepatitis C is a liver disease that results from infection with the hepatitis C virus (HCV), which is spread primarily through contact with the blood of an infected person. Hepatitis C infection can be classified as either “acute” or “chronic.” Cases are referred to as “acute” if the infection is newly acquired. Acute infection generally leads to chronic infection, as only 15-25 percent of persons clear the infection without treatment. The Centers for Disease Control and Prevention (CDC) states that today most people become infected with HCV by sharing needles or other equipment to inject drugs. Effective medications are available to treat the disease with few side effects. Treatments usually involve 8-12 weeks of a one-pill-a-day regimen and result in a cure for over 90 percent of infected individuals.

Acute Hepatitis C

Persons with acute hepatitis C infections often do not have symptoms; however, 20-30% of individuals have mild to severe gastrointestinal symptoms, including jaundice, within six months of infection. Identification of acute cases requires symptom information and laboratory data or evidence of seroconversion. In 2021, 11 cases reported to the Allegheny County Health Department met the revised 2020 acute case definition. Of these, 8 were classified as confirmed acute cases and 3 were classified as probable acute cases.^a The CDC estimates that the true number of acute cases is much higher than what is reported each year.³

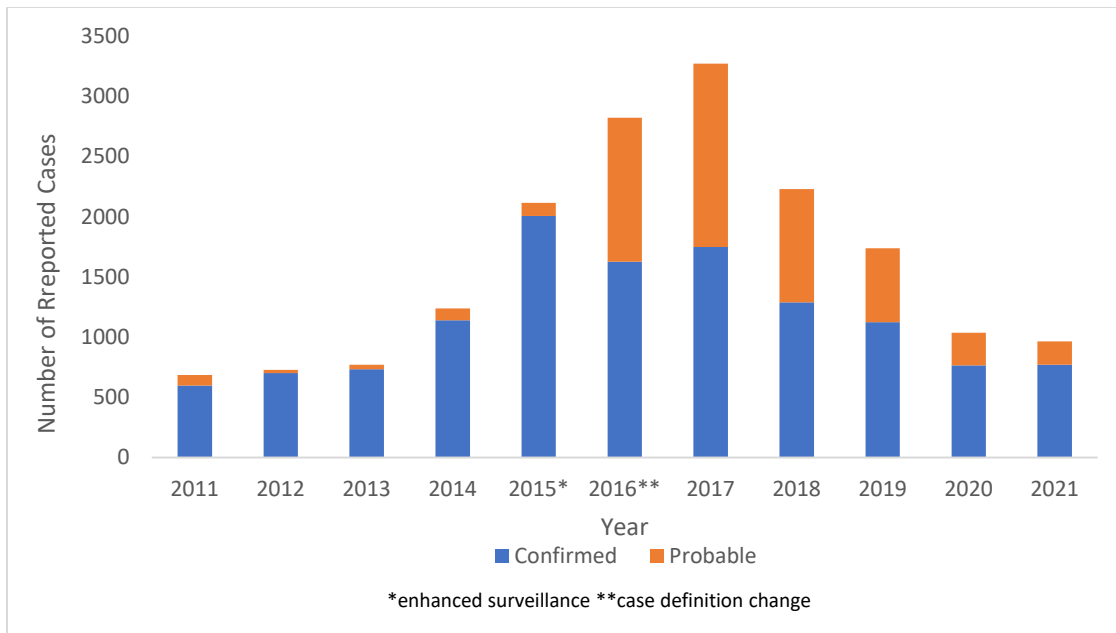
Chronic Hepatitis C

Chronic hepatitis C is associated with liver damage and sometimes liver failure or liver cancer. The number of newly reported chronic hepatitis C cases in Allegheny County has been decreasing since 2017. The trend from 2020 to 2021 was no exception. The reason for the decrease is uncertain, given the disruption in health care testing services during the COVID-19 pandemic.^{1,2} In 2021, there were 965 cases of chronic hepatitis C cases reported among Allegheny County residents. Of these, 771 (80%) were classified as confirmed chronic cases* and 194 (20%) were classified as probable chronic cases** (Figure 1). The crude incidence rate for confirmed chronic hepatitis C cases in 2021 among Allegheny County residents was 62.3 per 100,000, higher than the state rate of 53.2 per 100,000

* Chronic cases are considered confirmed if a person has a positive HCV NAT, HCV antigen, or genotype results without clinical information consistent with acute infection

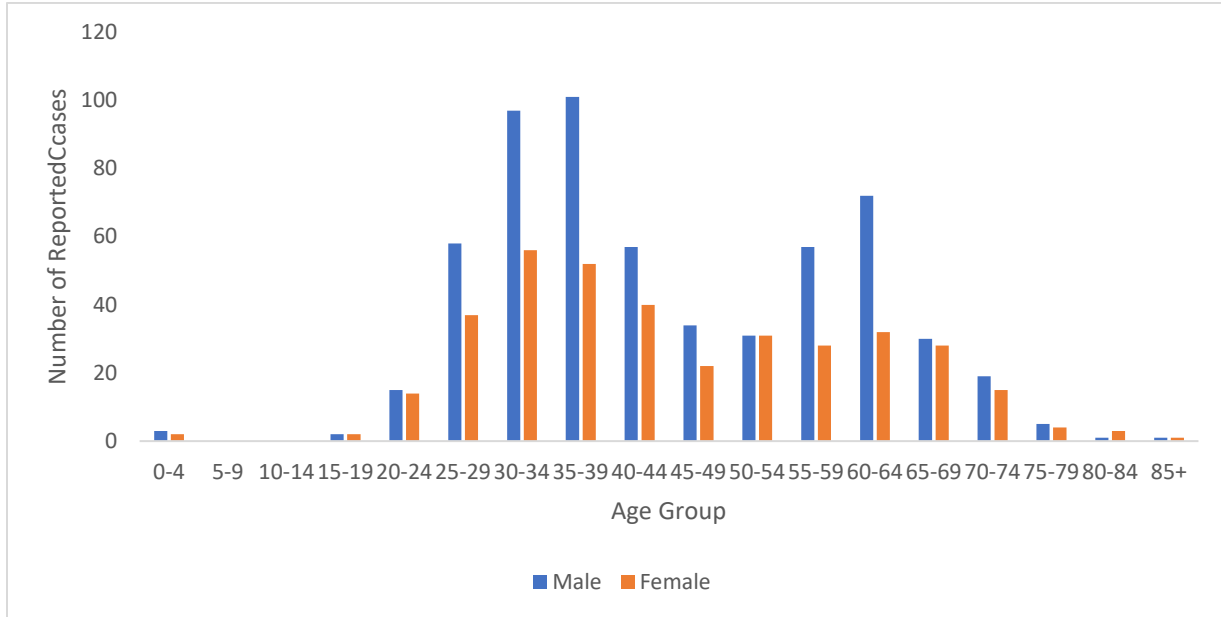
** Chronic cases are considered probable if a person has a positive HCV antibody test but no confirmatory test and no clinical information consistent with acute infection

Figure 1. Chronic Hepatitis C Cases by Year and Classification, Allegheny County, PA, 2011-2021



Of the 965 confirmed and probable cases in 2021, 583 (60%) were male and 367 (38%) were female. The remaining 15 cases (2%) were classified as sex unknown. The age distribution was bimodal with peaks in the 25-44 year and 55-64 year-old age groups (Figure 2).

Figure 2. Chronic Hepatitis C Cases by Age Group and Sex, Allegheny County, PA, 2021



Perinatal Hepatitis C

The hepatitis C virus can be transmitted from an infected mother to her infant at birth. Mother-to-child transmission is the leading cause of childhood HCV infection. According to the CDC, the number of infants born to women who are infected with HCV is increasing. The CDC recommends HCV testing during every pregnancy so that infants at risk of infection receive appropriate testing and care. In 2021, five cases of perinatal HCV were reported in Allegheny County. Women with active HCV infections are encouraged to seek treatment prior to becoming pregnant.

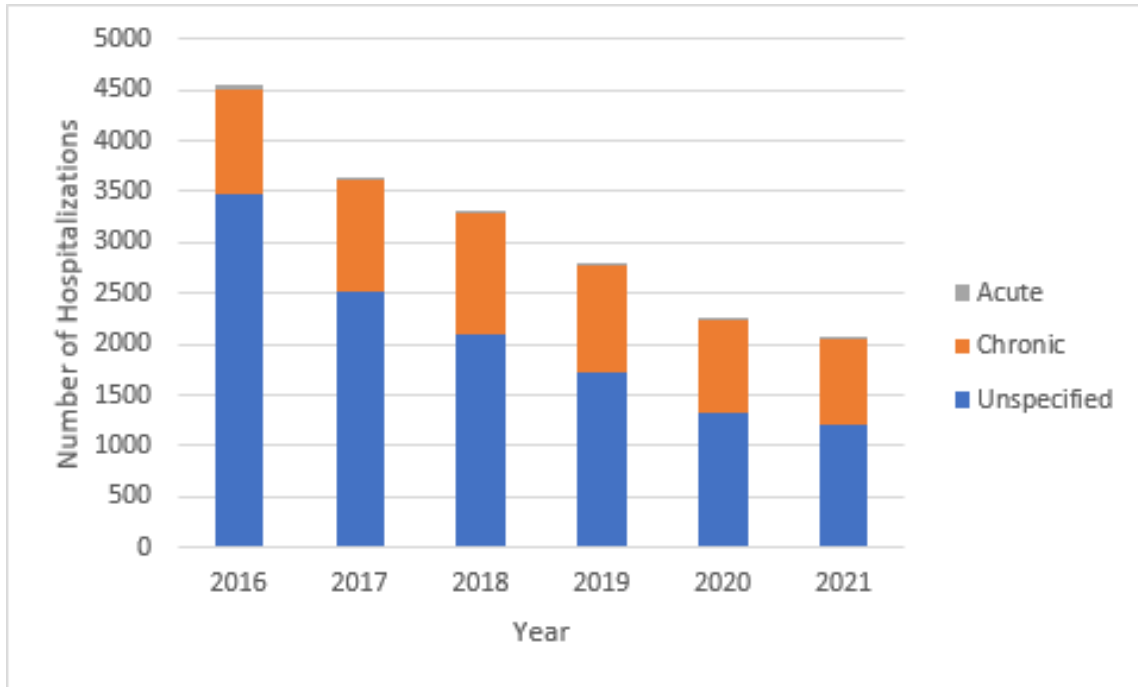
Hospitalizations Associated with Hepatitis C

Depending on the severity of illness, hepatitis C infection can result in hospitalization. In 2021, 2,038 individuals in Allegheny County were hospitalized with a diagnosis of hepatitis C (either the primary diagnosis or one of up to 17 secondary diagnoses). Of these, 830 (41%) had chronic hepatitis, 12 (0.6%) had acute hepatitis C, and 1196 (59%) had hepatitis C with no classification specified (Figure 3).

Of all HCV-related hospitalizations in 2021, 1108 (54%) were among males. Of hospitalized men, the median age was 56 years, with a range of 20-91 years. A large proportion (39%) of males hospitalized with a diagnosis of hepatitis C were between 60 to 69 years of age. Of hospitalized women, the median age was 48 years, with a range of 19-95 years (Figure 4).

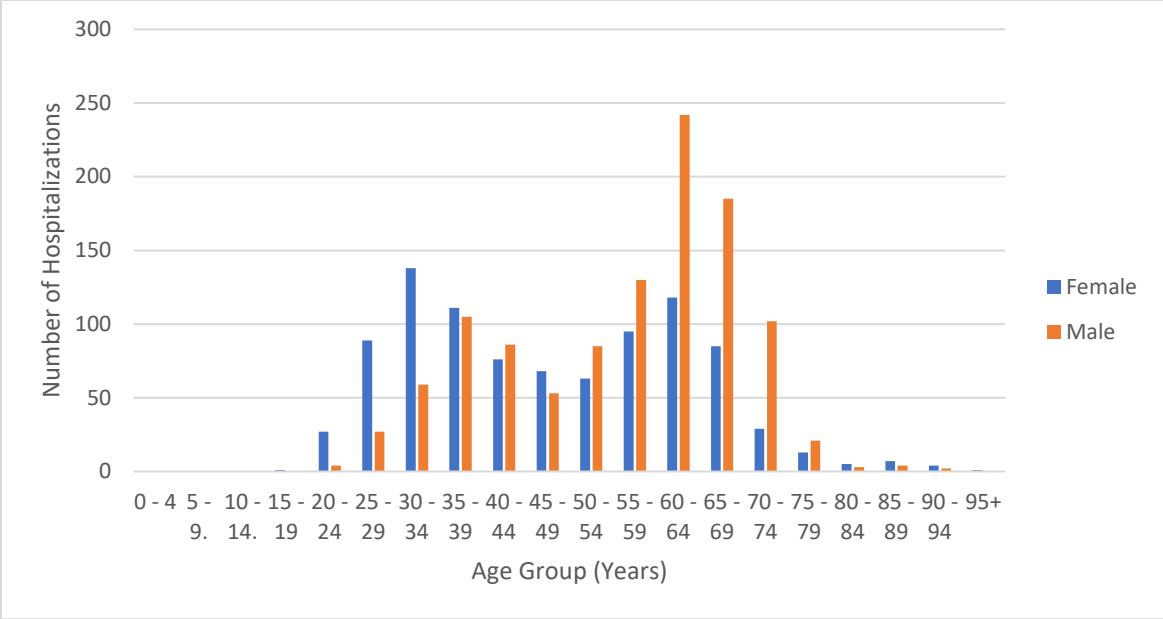
From 2020 to 2021, the number of HCV related hospitalizations decreased by 8 percent. The percentage of all hospital admissions in Allegheny County in 2021 with an HCV diagnosis was 1.5% and has been decreasing since 2016.

Figure 3. Hospitalizations with an HCV Diagnosis, Allegheny County, PA, 2016-2021



Data source: Pennsylvania Health Care Cost Containment Council

Figure 4. Hepatitis C-related Hospitalizations by Age Group and Sex, Allegheny County, 2021

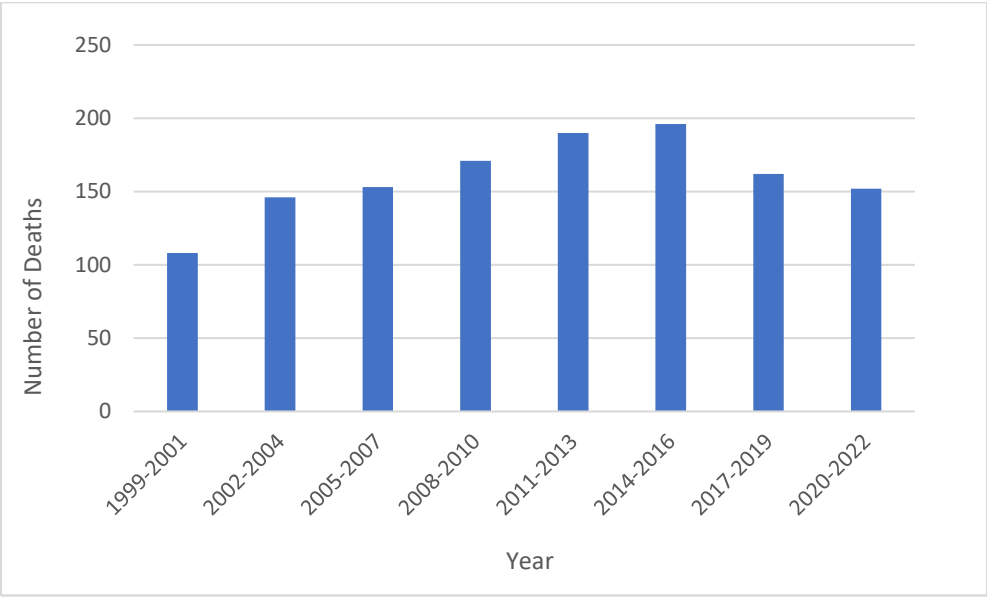


Data source: Pennsylvania Health Care Cost Containment Council

Deaths Associated with Hepatitis C

From 2020 through 2022, a total of 152 people in Allegheny County had hepatitis C listed as an underlying or contributing cause on their death certificate. Deaths attributed to hepatitis C have decreased since 2014 through 2016 (Figure 5).

Figure 5. Number of Cases with Hepatitis C Listed as a Cause of Death, 2001-2022



Data source: CDC Wonder⁴

Hepatitis C Prevention

Hepatitis C is the most common bloodborne infection in the United States. It is spread through exposure to the blood of someone who is infected. Even a small amount of blood is enough for a new infection to occur. Here are steps to prevent infection with HCV:

- **Never share needles**
 - People who use intravenous drugs are at highest risk of getting infected with HCV because many share needles
- **Avoid direct exposure to blood or blood products**
 - Any tools that encounter blood or draw blood should be disposed of safely or sterilized
- **Don't share personal care items**
 - Sharing razors or tooth brushes can also be a vehicle for viral transmission since small cuts sometimes occur on the skin or gums during use
- **Avoid getting a tattoo or piercing**
 - If getting a tattoo or piercing, ask the artist about their sanitary procedures, such as using new disposable needles and ink wells for each customer
- **Practice safe sex**
 - Learn how to practice safe sex, thus avoiding sexually-transmitted infections, by [visiting the CDC's website](#).

Resources

- [Testing recommendations](#) – CDC currently recommends testing all adults for Hepatitis C infection
- [Hepatitis C screening and follow-up care providers in Allegheny County](#)
- [Preventing Infection](#)
- [Know More Hepatitis Campaign for Health Care Providers](#)
- [Hepatitis C](#) – Pennsylvania Department of Health

References

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^a The number of reported acute cases was determined 2020 CSTE Acute Hepatitis C case definition. A probable acute case is classified as a case that meets clinical criteria and has presumptive laboratory evidence, **AND** does not have a hepatitis C virus detection test reported, **AND** has no documentation of anti-HCV or HCV RNA test conversion within 12 months. A confirmed acute cases is classified as a case that meets clinical criteria and has confirmatory laboratory evidence, **OR** a documented negative HCV antibody followed within 12 months by a positive HCV antibody test (anti-HCV test conversion) in the absence of a more likely diagnosis, **OR** a documented negative HCV antibody **OR** negative hepatitis C virus detection test (in someone without a prior diagnosis of HCV infection) followed within 12 months by a positive hepatitis C virus detection test (HCV RNA test conversion) in the absence of a more likely diagnosis.