



State of Iowa Hepatitis C End-of-Year 2023 Surveillance Report

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Authorship—Bureau of HIV, STI and Hepatitis

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Executive Summary

A Few Points Drawn from the 2023 Hepatitis C Data

Iowans diagnosed with chronic hepatitis C:

In 2023, 616 Iowans were diagnosed with chronic hepatitis C (HCV), a 7% decrease compared to 2022. Similarly, diagnoses among those under the age of 40 have steadily decreased since 2018. Overall, the 2023 numbers were well below the previous 5-year average of 974 diagnoses annually from 2018 to 2022.

Sex:

Approximately two-thirds (64%) of Iowans diagnosed with HCV in 2023 were male.

Birth cohort:

Thirty-six percent of people diagnosed with HCV in 2023 were “baby boomers” (born between 1945 and 1965), while twenty-five percent were born after 1983.

Race and ethnicity:

Of all people diagnosed with HCV in 2023, 85% were non-Hispanic white persons, 5% were Hispanic/Latino persons, 6% were non-Hispanic Black/African American persons, 2% were American Indian or Alaska Native persons and 2% were Asian persons. This closely mirrors the distribution of race and ethnicity in Iowa’s population overall. However, when analyzing hepatitis C rates per 100,000 population to assess racial and ethnic disparities, American Indians/Alaska Natives show disproportionately higher rates than all other populations listed above.

People under 40 years of age diagnosed with hepatitis C:

There were 151 people under 40 years of age diagnosed with chronic HCV in 2023, accounting for 25% of all diagnoses. Of these, 58% were male, a proportion similar to that reported in 2022. Total diagnoses among people under 40 decreased by 28% from the previous year, continuing the steady decrease in diagnoses since 2018. Diagnoses among people under the age of 40 are significant because they likely represent people more recently infected, and therefore more likely to be using drugs and in situations in which they could transmit HCV to partners via sharing of drug equipment. Of the 151 people under the age of 40 who were eligible for follow up, 69% reported injection drug use as a mode of exposure.

Iowans diagnosed with HCV since 2000:

From 2000 to 2023, 29,299 Iowans were reported to the Iowa Department of Health and Human Services (Iowa HHS) Division of Public Health with current or past HCV, including 23,025 with chronic HCV. The remaining 6,274 had positive hepatitis C antibody results but no confirmation of chronic disease. An estimated 15–25% cleared the virus spontaneously, while 75–85% likely have or had chronic HCV. Among those ever diagnosed with chronic HCV, over two-thirds (60%) were baby boomers, and 15% were under 40 years of age. Nearly two-thirds

(65%) were male, and 88% were white, non-Hispanic. Note that race and ethnicity information was not reported for 21% of cases, though reporting quality has improved since 2015.

Iowans Diagnosed with HIV and HCV:

An analysis of co-infection revealed that 343 Iowans had both HIV and chronic HCV, with 244 (71%) alive at the end of 2023. Approximately 7% of people living with HIV have also been diagnosed with chronic HCV.

Organization of the Surveillance Report

This end-of-year report presents surveillance data on hepatitis C in Iowa. It describes hepatitis C for the state and of its population subgroups. There are four sections to the report: Section 1 describes data sources; Section 2 is a narrative summary with key highlights; Section 3 employs charts, graphs, and tables to illustrate trends; and Section 4 outlines the reporting requirements for hepatitis C in Iowa.

Definitions

Confirmed chronic HCV means the person has HCV RNA circulating in his or her blood, as confirmed by laboratory testing.

HCV antibody positive means that there is a presence of antibodies to HCV in a person's blood. This indicates that a person was exposed to viral hepatitis C and developed an infection, but approximately 15% to 25% of people will spontaneously clear the virus without treatment. Therefore, 75% to 85% of people with positive antibody tests likely have chronic HCV. An HCV RNA test (i.e., PCR) is needed to confirm chronic infection.

Section 1: Sources of Data

Core Hepatitis C Virus (HCV) Surveillance Data

Iowa Disease Surveillance System (IDSS)

HCV data are collected in the Iowa Disease Surveillance System, which is a web-based system designed to facilitate reporting, investigation and surveillance of reportable diseases in Iowa. HCV is a reportable disease as defined by Iowa Code chapter 139A. Reports of HCV infection are submitted by local public health, private providers, laboratories, and others. IDSS is not a static database, as information on cases can be updated daily. Some records have incomplete data, which may include information about treatment, cure or spontaneous clearing of the virus.

Hepatitis C test results in IDSS are defined by the following criteria:

Screening tests: (usually reported as positive or negative)

HCV antibody by enzyme immunoassay (EIA) (See Interpretation of Signal-to-Cutoff Ratio in lab report)

Serology – HCV antibody (EIA) (positive, negative, equivocal or not reactive)

Serology – Anti-HCV antibody test (positive, negative, equivocal or not reactive)

Serology – HCV IgG antibody (EIA) (positive, negative, equivocal not reactive)

Serology – HCV IgM antibody (EIA) (positive, negative, equivocal not reactive)

Confirmatory tests:

Polymerase Chain Reaction (PCR) (detected, equivocal, indeterminate, not detected, not quantified or not tested)

Genotype (detected, not detected or indeterminate)

Serology – RNA Qualitative (QL) (positive, negative, equivocal or not reactive)

Serology – HCV RNA (positive, negative or not done)

Serology – HCV DNA QL Log (positive, negative, equivocal or indeterminate)

Diagnosis Date and Completeness of Surveillance Data

Only people diagnosed with HCV in Iowa for whom last name, date of birth, sex and date of diagnosis are known are included in this report. Evaluations of the surveillance system indicate that a potentially significant number of Iowans with HCV may never have been reported to Iowa HHS. In addition, these data do not include people who have contracted the virus but not been diagnosed. Nationally, CDC estimates that about half of people with HCV are undiagnosed.¹

¹ Centers for Disease Control and Prevention. Viral Hepatitis Surveillance Report – United States, 2022. <https://www.cdc.gov/hepatitis-surveillance-2022/about/index.html>. Published April 2024. Accessed August 2024.

HIV and HCV Co-infection

Iowans living with both HIV and HCV were determined by a match between HHS and the Iowa enhanced HIV/AIDS Reporting System (eHARS). All people living with HIV who were first diagnosed while living in Iowa, or who have lived in Iowa at some point in time while living with HIV, or who have accessed care at an Iowa facility and have been reported to the HHS, are included in eHARS. All reports of HCV as of December 31, 2023, were matched to HIV reports in eHARS. Matches were based on date of birth, last and first name. People reported in both databases were considered to be living with both HIV and HCV.

Population Data

The surveillance program has used the 2023 population estimates from the U.S. Census Bureau (<http://www.census.gov>) to calculate rates.

Section 2: Narrative Summary

Iowans Diagnosed with Hepatitis C in 2023

There were 616 Iowans diagnosed with chronic hepatitis C (HCV) in 2023. This is a decrease of 45 people (7%) from the 661 diagnoses in 2022 and well below the average of 974 for the previous five years (2018 through 2022). However, decreases in diagnoses that have been occurring since 2015 have slowed since 2020 and now seem to be leveling off. As seen in Figure 3.1, the annual number of Iowans diagnosed with chronic HCV increased steadily from 2000 through 2014, peaked at 1,587 diagnoses in 2015, and has been decreasing since then.

Case Status

Of the 629 Iowans reported with past or current (chronic) HCV in 2023, 616 (98%) had evidence of a confirmatory (PCR) test indicating chronic HCV, while 13 (2%) had only antibody positive results reported to the Division of Public Health at the Iowa Department of Health and Human Services (Iowa HHS). An antibody test for HCV indicates exposure to HCV. An estimated 75–85% of Iowans with positive antibody results develop chronic HCV, while 15–25% clear the virus on their own. In 2023, there were also 2,793 Iowans reported to Iowa HHS with a positive antibody result and a negative PCR result. These patients have spontaneously cleared the virus or had a false antibody positive result. Spontaneous clearance may occur during or after the acute infection phase.

Birth Cohort

Thirty-six percent of Iowans (36%) diagnosed with HCV in 2023 were “Baby Boomers,” or those born between 1945 and 1965, while 25% were people born after 1983 (under 40 years of age at diagnosis). The remaining thirty eight percent of people diagnosed in 2023 were born between 1966 and 1983 (between the ages of 40 and 57 years of age at diagnosis). A significantly smaller percentage (<1%) of people reported with HCV in 2023 were born before 1945.

Diagnoses among people under the age of 40 are significant because they likely represent those more recently infected and therefore more likely to be using drugs and in situations in which they could transmit HCV to partners via shared drug equipment. According to the CDC, “Baby Boomers” account for approximately three fourths of all chronic HCV infections among adults in the United States. Although effective treatments are available to cure HCV infection, most persons with HCV do not know they are living with HCV, do not receive needed care (e.g., education, counseling, and medical monitoring) and are not evaluated for treatment. HCV testing is the first step toward improving health outcomes for persons with HCV.

Sex

In 2023, 64% of Iowans diagnosed with chronic HCV were male. An analysis of people diagnosed with HCV under the age of 40 reveals a similar distribution, with men representing

58% of diagnosed Iowans. Hepatitis C diagnoses among women under the age of 40 is important to note, as HCV can be transmitted perinatally by women to their infants.

Race and Ethnicity

Unlike for HIV and other sexually transmitted infections, there are not significant racial and ethnic disparities among Iowans diagnosed with HCV. In 2023, 85% of people diagnosed with hepatitis C were non-Hispanic white persons, 6% were non-Hispanic Black/African American persons, 5% were Hispanic or Latino persons, 2% were American Indian or Alaska Native persons and 2% were Asian persons. This closely matches the racial and ethnic distribution of Iowans overall.

However, given the racial disparities among people diagnosed with HCV reported nationally, it is possible that African Americans and other minorities are not being tested at the same rate as white Iowans. On the other hand, HCV in Iowa is associated with use of methamphetamine. More than 90% of people in Iowa who were admitted for treatment of methamphetamine use at Iowa's publicly funded treatment sites were white in 2020 (SAMHSA, Treatment Episode Data Set, 2020), and the number of people admitted with methamphetamine use increased steadily from 2008 to 2019. In 2020, meth use was second only to alcohol among people treated at these sites.

Iowans Under 40 Diagnosed with Hepatitis C in 2023

There were 151 Iowans under the age of 40 who were diagnosed with chronic HCV in 2023, representing 25% of all Iowans diagnosed. Among those individuals, 4% were under 20 years of age, 23% were between 20 and 29 years of age and 73% were between 30 and 39 years of age. An analysis of surveillance data indicated that, of the 151 persons under 40 who were eligible for follow up, 69% of people disclosed injection drug use to their health care providers. The proportion of HCV diagnoses by race and ethnicity in Iowans under 40 reflected the state's overall demographic distribution. Eighty-five percent of Iowans under 40 diagnosed with HCV in 2023 identified as white, 5% identified as Latino, 7% identified as Black/African American and 1% identified as Asian.

Iowans Ever Diagnosed with HCV

There have been 29,299 Iowans reported to Iowa HHS with current or past HCV. Of these, 23,025 had evidence of chronic HCV. This means that a positive HCV RNA result was reported for these Iowans. Over half (60%) were Baby Boomers, while 15% were under 40 years of age at diagnosis. Nearly two-thirds (65%) were male, and 88% were white and non-Hispanic. It should be noted that race and ethnicity information were not reported for 21% of people diagnosed with HCV and reported to the Division of Public Health at Iowa HHS since 2000. Active surveillance of hepatitis C did not begin at the Division of Public Health at Iowa HHS until 2015, and this limited the completeness of data reporting.

Deaths of People with Hepatitis C

There were 4,369 deaths among Iowans living with hepatitis C from 2000 to 2022. In general, the number of deaths among Iowans diagnosed with hepatitis C has increased each year, with exceptions in 2014, 2018 and 2021. The number of deaths among people with HCV increased by 18% from 2019 to 2020 and by 11% from 2021 to 2022. The causes of death for these individuals were not necessarily related to their hepatitis C diagnoses. However, mortality related to HCV among people living with HCV is likely to be underestimated, as death certificates often underreport HCV infection, and approximately half of people with HCV are undiagnosed.

There were few deaths where hepatitis C was listed as the primary cause of death. In 2022, the most recent year for which we have data, only seven Iowans died directly as a result of HCV. The number of deaths peaked at 46 in 2013 and have been decreasing fairly steadily since then.

HIV and HCV Co-infection

Since 2000, 343 Iowans have been reported to Iowa HHS as diagnosed with both HIV and chronic HCV. Among them, 244 (71%) were living at the end of 2023. This means that approximately 7% of Iowans currently living with HIV are also diagnosed with chronic HCV.

Ryan White Part C clinics have been making concerted efforts to treat hepatitis C in Iowans living with HIV. The Benefits and Drug Assistance Program (BDAP), a part of the Ryan White Part B Program at Iowa HHS, covers hepatitis C treatment for people who are diagnosed with HIV and meet the program's income guidelines. Of people who were co-infected with HIV and HCV, 80% were male, and 64% were white, non-Hispanic people. Notably, while only 6% of Iowans diagnosed with HCV identify as Black or African American, 20% of Iowans with both HIV and HCV are Black or African American. This may provide further evidence that testing for HCV among Black/African American Iowans needs to be increased.

Estimation of Prevalence of HCV in Iowa

As of December 31, 2023, there have been 29,299 Iowans reported to Iowa HHS with past or current (chronic) hepatitis C infection. Among these Iowans, 23,025 had evidence of chronic infection, while 6,274 had only positive antibody (screening) results reported. The Centers for Disease Control and Prevention (CDC) estimate that 15% to 25% of people with HCV clear the infection spontaneously, so it is likely that 75% to 85% of the 6,274 persons with only antibody results may actually have chronic HCV infection. In addition, CDC estimates that about 40% of people with HCV have not yet been diagnosed.² That gives a prevalence estimate of 46,218 Iowans with chronic hepatitis C infection. However, this estimate includes those who may have been treated and cured of chronic hepatitis infection.

² Yehia, BR, AJ Schranz, CA Umscheid, and V Lo Re, III. 2014. The treatment cascade for chronic hepatitis C virus infection in the United States: A systematic review and meta-analysis. PLoS One. 2014; 9(7): e101554. Published online 2014 Jul 2. doi: [10.1371/journal.pone.0101554](https://doi.org/10.1371/journal.pone.0101554)

Hepatitis C Surveillance Activities

Active public health surveillance of hepatitis C virus began in 2015 in the Bureau of HIV, STI and Hepatitis at Iowa HHS. At that time, the Division of Public Health conducted surveillance follow-up with healthcare providers of Iowans diagnosed with HCV who were 30 years of age or younger to collect information on injection drug usage. The cutoff age of 30 was chosen because other states were reporting increases in diagnoses in people 30 and under. However, analyses of Iowa's hepatitis C surveillance data indicates that Iowans aged 30 to 39 years were also experiencing increases in diagnoses, potentially associated with the expanding number of people who inject drugs related to the opioid epidemic. Therefore, the cutoff age for HCV surveillance follow up was increased to 39, effective January 1, 2017.

Starting January 1, 2018, the Iowa Division of Public Health began surveillance follow-up with healthcare providers for all Iowans reported to Iowa HHS with hepatitis C-positive test results who did not have evidence of a confirmatory test. The purpose of this follow-up is to educate health care providers on testing recommendations and encourage them to provide confirmatory testing to patients. If healthcare providers cannot reach a patient, the Viral Hepatitis Epidemiologist at the Division of Public Health will attempt to contact the patient directly to discuss options for confirmatory testing.

Section 3: Tables and Figures

Table 3.1 Iowans Diagnosed & Reported with Chronic Hepatitis C in 2023

Characteristics	Iowans Diagnosed with Chronic HCV	
	Number	(%)
Sex at Birth		
Male	393	(64)
Female	223	(36)
Age at Diagnosis		
Under 20 years of age	6	(1)
20–29 years of age	35	(6)
30–39 years of age	110	(18)
40–49 years of age	128	(21)
50–59 years of age	139	(23)
60–69 years of age	158	(26)
70 years of age and older	40	(6)
Birth Cohort Year		
Under 40 years of age (0–39 years of age)	151	(25)
Baby Boomers (58–78 years of age)	223	(36)
Born before 1945 (79 years of age and older)	4	(<1)
All other ages (40–57 years of age)	239	(39)
Ethnicity/Race		
Hispanic/Latino, All Races	29	(5)
Not Hispanic, White	524	(85)
Not Hispanic, Black/African American	40	(6)
Not Hispanic, Asian	11	(2)
Not Hispanic, Native Hawaiian/Pacific Islander	2	(<1)
Not Hispanic, American Indian/Alaska Native	10	(2)
Not Hispanic, Multi-race	0	(0)
Totals – Confirmed HCV	616	(100)
Case Status		
Confirmed HCV (positive confirmatory result)	616	-
Past or current HCV (positive screening test)	13*	-
Totals—Confirmed and unconfirmed	629	

*Data for 13 people are not included as they have not been confirmed as living with HCV

Table 3.2 Iowans under Age 40 Diagnosed and Reported with Chronic Hepatitis C in 2023

Characteristics	People reported with HCV diagnosis	
	Number	(%)
Sex at Birth		
Male	88	(58)
Female	63	(42)
Age at Diagnosis		
Under 20	6	(4)
20–24	7	(5)
25–29	28	(19)
30–34	52	(34)
35–39	58	(38)
Reported Injection Drug Use		
Yes	104	(69)
No	35	(23)
Unknown	11	(7)
Not Assessed (patient under age 13)	1	(<1)
Ethnicity/Race		
Hispanic/Latino, All Races	7	(5)
Not Hispanic, White	128	(85)
Not Hispanic, Black/African American	11	(7)
Not Hispanic, Asian	2	(1)
Not Hispanic, Native Hawaiian/Pacific Islander	1	(<1)
Not Hispanic, American Indian/Alaska Native	2	(1)
Not Hispanic, Multi-race	0	(0)
Totals—Confirmed HCV	151	(100)
Case Status		
Confirmed HCV (positive confirmatory result)	151	-
Past or current HCV (positive screening test)	6*	-
Totals	157	(100)

*Data for six people are not included as they have not been confirmed as living with HCV

Table 3.3 Iowans Diagnosed and Reported with Chronic HCV from 2000 through 2023

Characteristics	People reported with HCV diagnosis	
	Number	(%)
Sex at Birth		
Male	14,866	(65)
Female	8,159	(35)
Age at Diagnosis		
Under 40 years of age	5,620	(24)
Under 20 years of age	212	(4)
20–29 years of age	1,979	(35)
30–39 years of age	3,429	(61)
40–49 years of age	5,487	(24)
50–59 years of age	7,679	(33)
60–69 years of age	3,586	(16)
70 years of age and above	653	(3)
Birth Year		
Born after 1983	3,473	(15)
Born 1966–1983 (Gen X)	5,147	(22)
Born 1945–1965 (baby boomer)	13,714	(60)
Born before 1945	691	(3)
Ethnicity/Race*		
Hispanic/Latino, All Races	569	(3)
Not Hispanic, White	16,018	(88)
Not Hispanic, Black/African American	1,103	(6)
Not Hispanic, Asian	212	(1)
Not Hispanic, Native Hawaiian/Pacific Islander	13	(<1)
Not Hispanic, American Indian/Alaska Native	159	(1)
Not Hispanic, Multi-race	34	(<1)
Case Status		
Confirmed HCV (positive confirmatory result)	23,025	-
Past or current HCV (positive screening test)	6,274	-
Total	29,299	(100)

*Race and ethnicity data were missing for 21% (n=4,917) of case reports from 2000–2023. The percentages for racial and ethnic groups were calculated using a denominator of 18,108.

Table 3.4 Iowans Diagnosed & Reported with HIV and Chronic HCV, 2000–2023

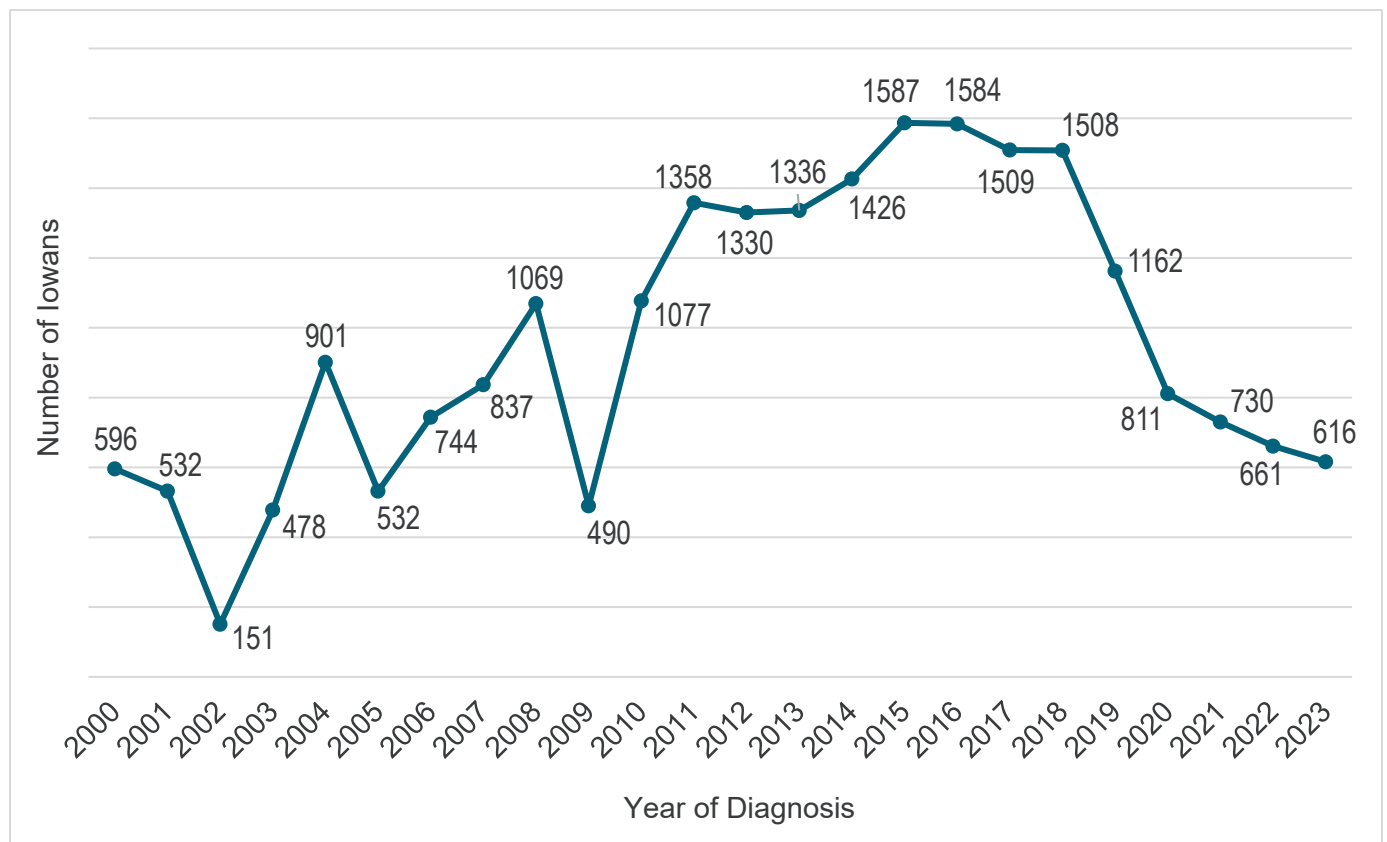
Characteristics	People with HIV and HCV	
	Number	(%)
Sex at Birth		
Male	194	(80)
Female	50	(20)
Birth Cohort Year		
Born after 1983	38	(16)
Born 1966–1983 (Gen X)	110	(45)
Born 1945–1965 (baby boomer)	95	(39)
Born before 1945	1	(<1)
Ethnicity/ Race		
Hispanic/Latino, All Races	28	(11)
Not Hispanic, White	156	(64)
Not Hispanic, Black/African American	49	(20)
Not Hispanic, Asian	7	(3)
Not Hispanic, Native Hawaiian/Pacific Islander	0	(0)
Not Hispanic, American Indian/Alaska Native	2	(1)
Not Hispanic, Multi-race	2	(1)
Vital Status (as of Dec. 31, 2021)		
Alive	244	-
Deceased	99	-
Totals	343	(100)

Trends in Iowans Diagnosed with Hepatitis C

Number of Iowans Diagnosed with Chronic HCV

Diagnoses of chronic hepatitis C infection peaked in 2015 at 1,587 cases. The number of Iowans diagnosed with chronic, confirmed hepatitis C in 2023 (616) is well below the 5-year average of 974 (2018 through 2022) and a 7% decrease since 2022. The decrease in 2023 was among all age cohorts.

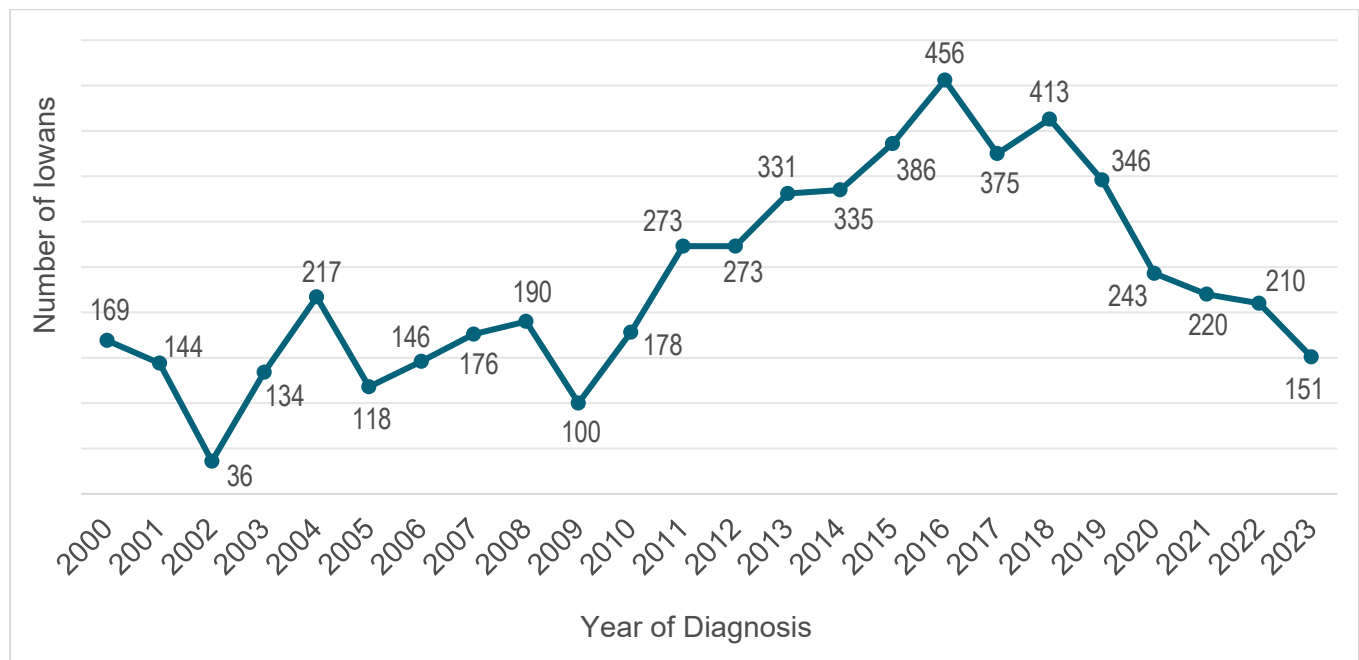
Figure 3.1 Number of Iowans Diagnosed with Chronic HCV: 2000–2023



Number of Iowans Under 40 Diagnosed with Chronic HCV

There were 151 Iowans under 40 years of age diagnosed with chronic HCV in 2023, representing 24% of all Iowans diagnosed. The number of diagnoses represents a 28% decrease compared to 2022, and it remains well below the peak of 456 reached in 2016.

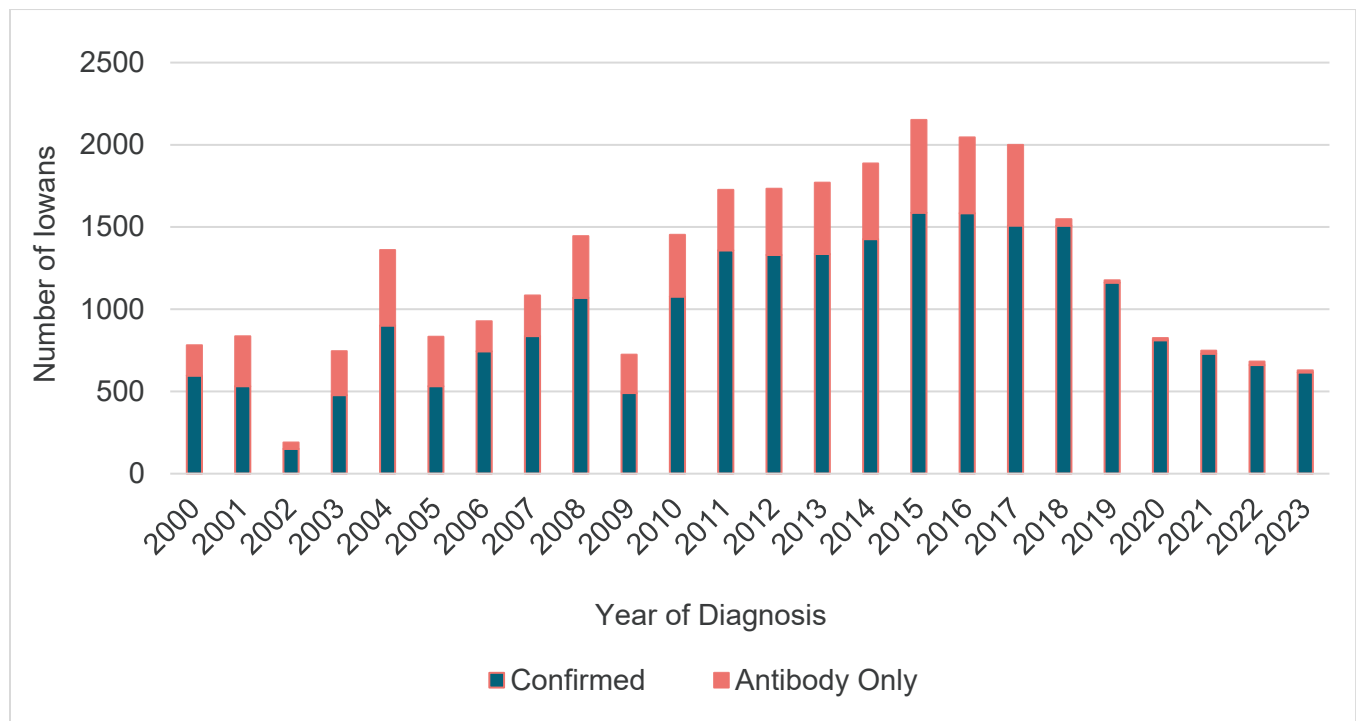
Figure 3.2 Number of Iowans Under 40 Years of Age Diagnosed with Chronic HCV: 2000–2023



Proportion of Iowans Reported with Confirmed or Unconfirmed (Antibody) HCV

To determine whether a person has chronic HCV, a confirmatory (i.e., RNA PCR) test must be administered. In 2023, 98% of the 616 Iowans reported to the HHS with HCV had evidence of a positive confirmatory test, while 2% (13) had only screening (antibody) results reported. Beginning in January 2018, HHS began following up with medical providers who report patients with a hepatitis C antibody positive result without evidence of a confirmatory result. The purpose of this follow up is to inform providers of the testing algorithm for hepatitis C to ensure all Iowans with a hepatitis C positive screening result receive confirmatory testing.

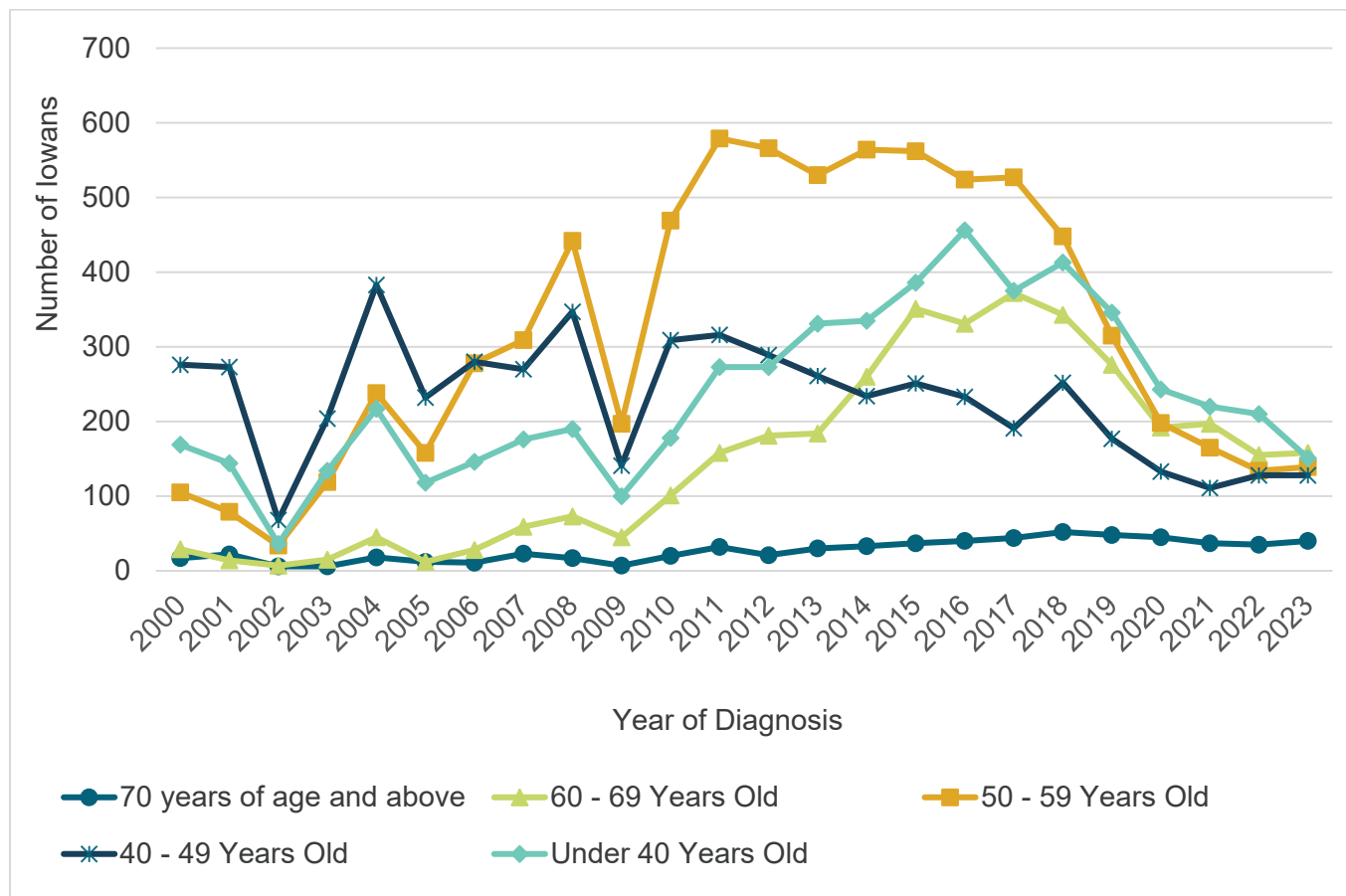
Figure 3.3 Number of Iowans Reported with Antibody-only or Confirmatory HCV Test Results



Number of Iowans Reported with Chronic HCV by Age Group

The largest single group of people who are diagnosed with hepatitis C had been those aged 50 to 59 years. However, this age group has seen a fairly continuous decrease in diagnoses since the peak in 2011. As of 2023, Iowans under the age of 40 have become the group with the most diagnoses. There were 151 Iowans under 40 diagnosed with chronic HCV in 2023, which was a 28% decrease compared to 2022, and was the most of any age group represented below. However, Iowans who were 40 to 49 years of age experienced an increase from 2021 to 2023. There were 128 Iowans ages 40 to 49 diagnosed with chronic HCV in 2023, similar the number of diagnosed in 2022. Iowans between 50 and 59 years of age experienced 139 diagnoses in 2023, representing a 4% increase from 2022. Iowans 60 to 69 older experienced a 2% increase in diagnoses in 2023, with 158 diagnoses. Iowans 70 years of age and above experienced a slight increase in diagnoses from 2022 to 2023, with 40 diagnoses.

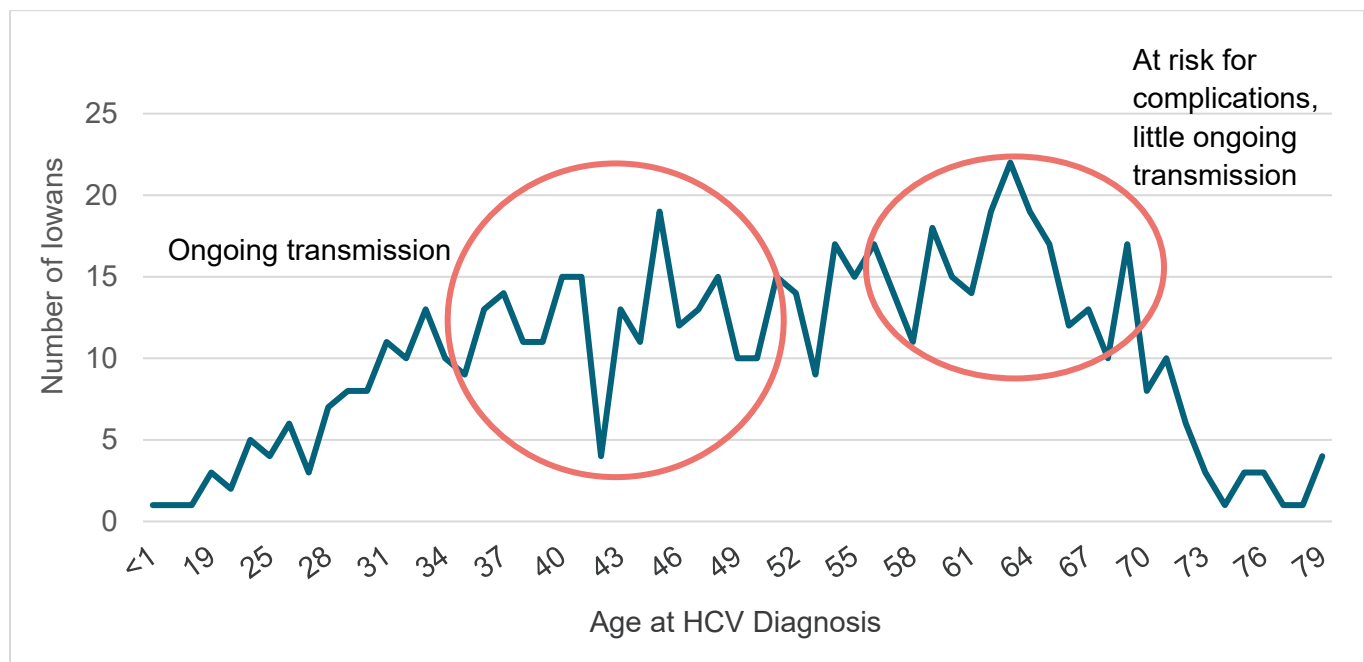
Figure 3.4 Diagnosis of HCV by Age Group in Iowans: 2000 through 2023



Age at Diagnosis of HCV in 2023

A distribution of Iowans diagnosed with HCV in 2023 by age reveals the two groups of Iowans on which we have focused in this report. Iowans under 40 years of age at diagnosis with HCV represent those who likely contracted the virus from current or recent injection drug use and who are likely at risk for transmitting to others, although they are less likely to have yet experienced health complications related to HCV. Iowans older than 50 years of age diagnosed with HCV are more likely to have acquired the virus decades ago and are at higher risk for immediate health complications. Many of these “baby boomers” may have ceased injecting drugs years previously.

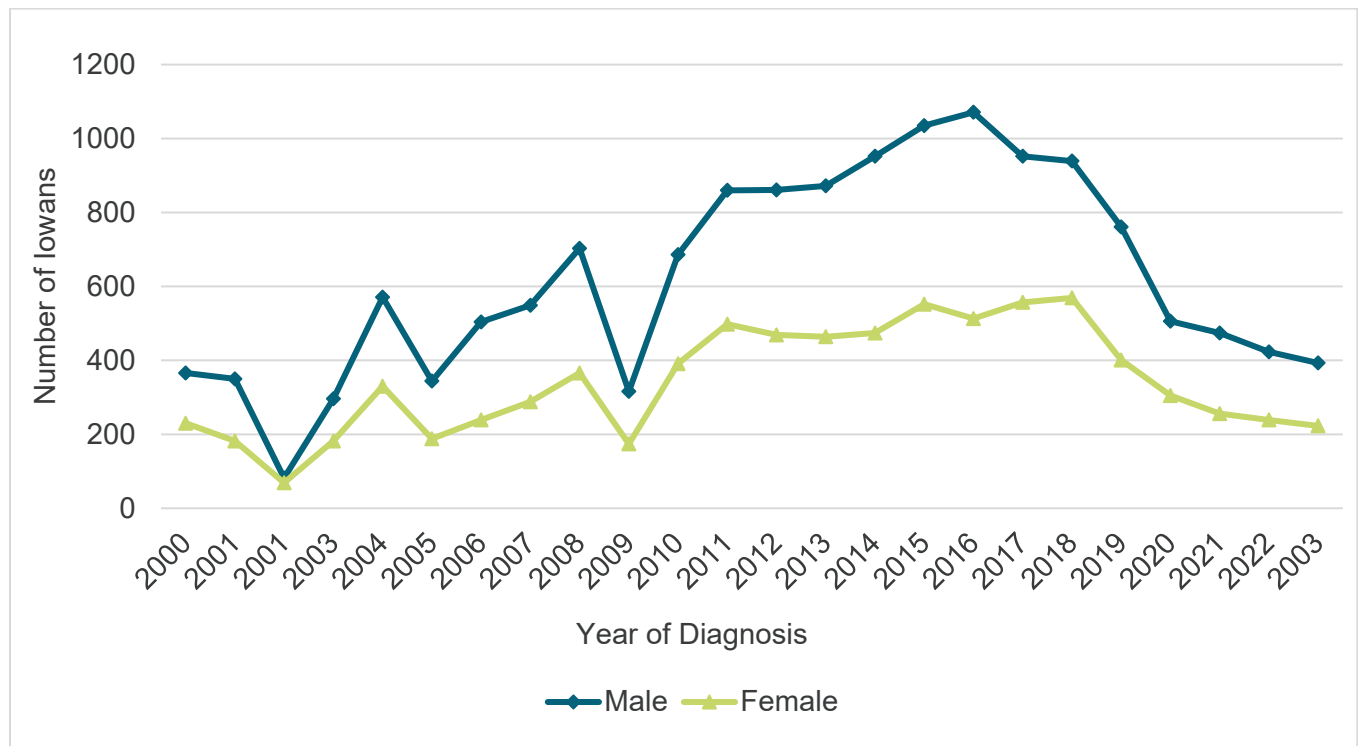
Figure 3.5 Iowans Diagnosed with HCV in 2023, by Age



Number of Iowans diagnosed with chronic HCV in 2023, by sex

Hepatitis C virus disproportionately impacts males in Iowa. From 2000 through 2023, there were about 1.8 males diagnosed for every female diagnosed. This gap has narrowed since 2016. It is important to note that this ratio varies by age, as well. For people under 40, there were only 1.3 males diagnosed to every female diagnosed.

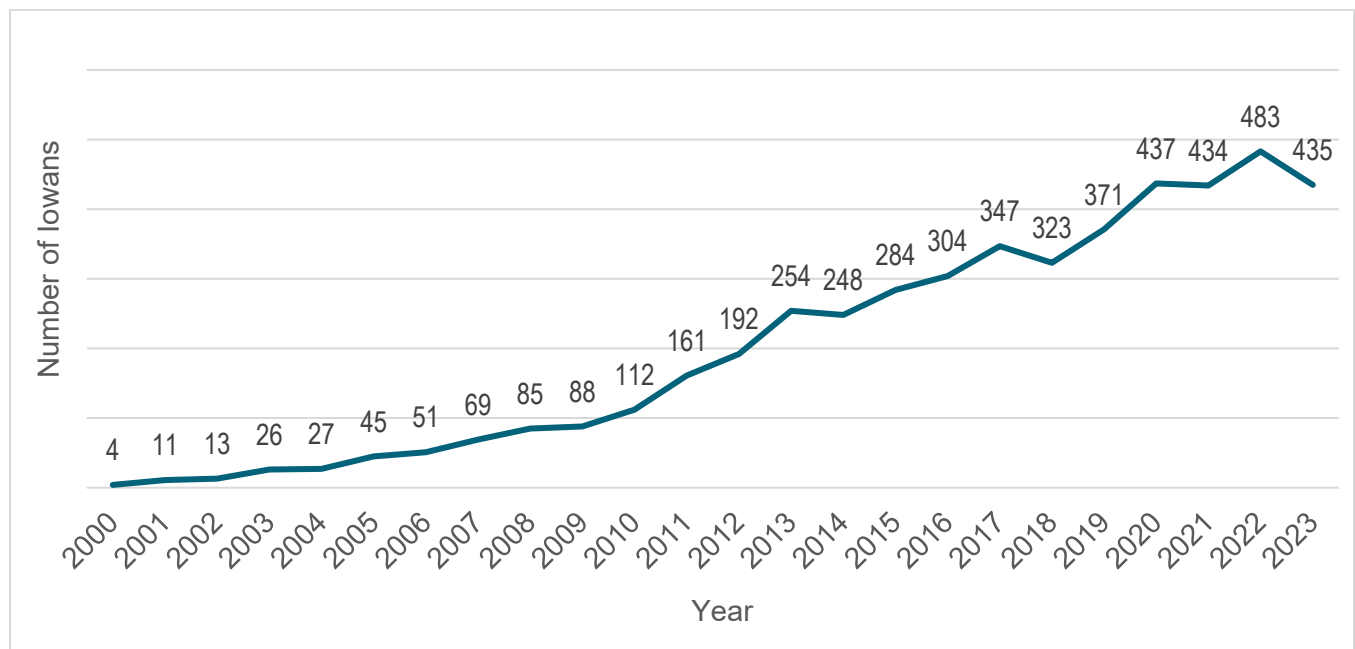
Figure 3.6 Iowans Diagnosed with HCV by Sex: 2000 through 2023



Deaths of Iowans with Hepatitis C

The number of Iowans with hepatitis C who died each year has increased fairly steadily since 2000. There was a slight decrease in 2018, when there were 323 Iowans with hepatitis C who died. Deaths are discovered by matching the HCV surveillance data with Vital Records at Iowa HHS and with the National Death Index at CDC. An analysis of death certificate data indicated that between 2000 and 2023, there were 4,804 Iowans who died from hepatitis C-related causes (i.e., hepatitis C was listed on the death certificate). Mortality from hepatitis C is likely to be underestimated, as death certificates often underreport HCV infection, and approximately half of all people with hepatitis C are undiagnosed.

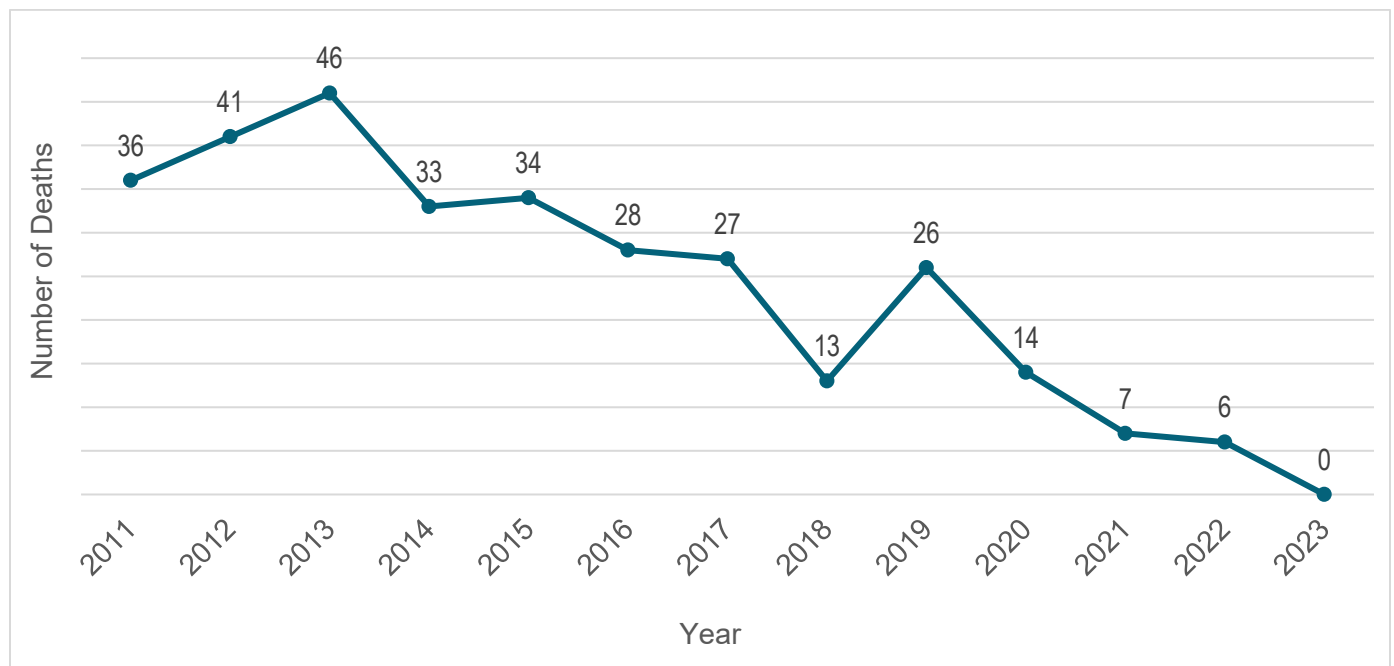
Figure 3.7 Deaths of Iowans with HCV: 2000 through 2023



Deaths where Hepatitis C was Listed as a Primary Cause

The Bureau of HIV, STI and Hepatitis at Iowa HHS identified a goal of reducing deaths and improving the health of people living with hepatitis in the 2016-2021 statewide hepatitis plan. The primary objective was to reduce the number of deaths with chronic viral hepatitis listed as the primary cause of death in Iowa. From 2011 through 2013, there was a steady increase in the number of deaths with chronic hepatitis C listed as primary cause of death. In 2013, the FDA approved new medications to treat chronic hepatitis C. With the success of these medications and with new medications being introduced, hepatitis C deaths started to decrease and have continued to decrease for most years since then.

Figure 3.8 Deaths where Hepatitis C was Listed as a Primary Cause



Iowans Diagnosed with HIV and Chronic HCV

In the United States, an estimated 25% of people living with HIV also have hepatitis C.³ Co-infection with HIV and HCV is particularly common among people who inject drugs. Iowa is a low-prevalence state for HIV disease. At the end of 2023, there were 3,411 people diagnosed and living with HIV in Iowa. People who inject drugs represented 19% of people diagnosed with HIV in 2021, 22% 2022 and 9% in 2023.

To ascertain co-diagnoses of HIV and HCV among Iowans, the HIV surveillance system was matched with the HCV surveillance system for Iowans diagnosed through 2023. A total of 348 persons were ever reported to Iowa HHS as having both HIV and chronic HCV. Of those people, 255 were alive at the end of 2022 and living in Iowa, indicating that 7% of Iowans with HIV have also been diagnosed with chronic HCV. This is likely an underestimate, as previous analyses have indicated that up to half of people co-diagnosed had not been reported to Iowa HHS as having HCV.

Among people co-diagnosed with HIV and HCV, 80% were male and 64% were white and non-Hispanic. Notably, while only 6% of Iowans diagnosed with HCV identify as Black or African American, 20% of people co-diagnosed with HIV and HCV were Black or African American. This relatively high proportion may indicate that HCV infections among Black/African American Iowans without HIV are not getting diagnosed. This may be the case if Black and African American Iowans are not being tested for HCV at the same rate as white Iowans.

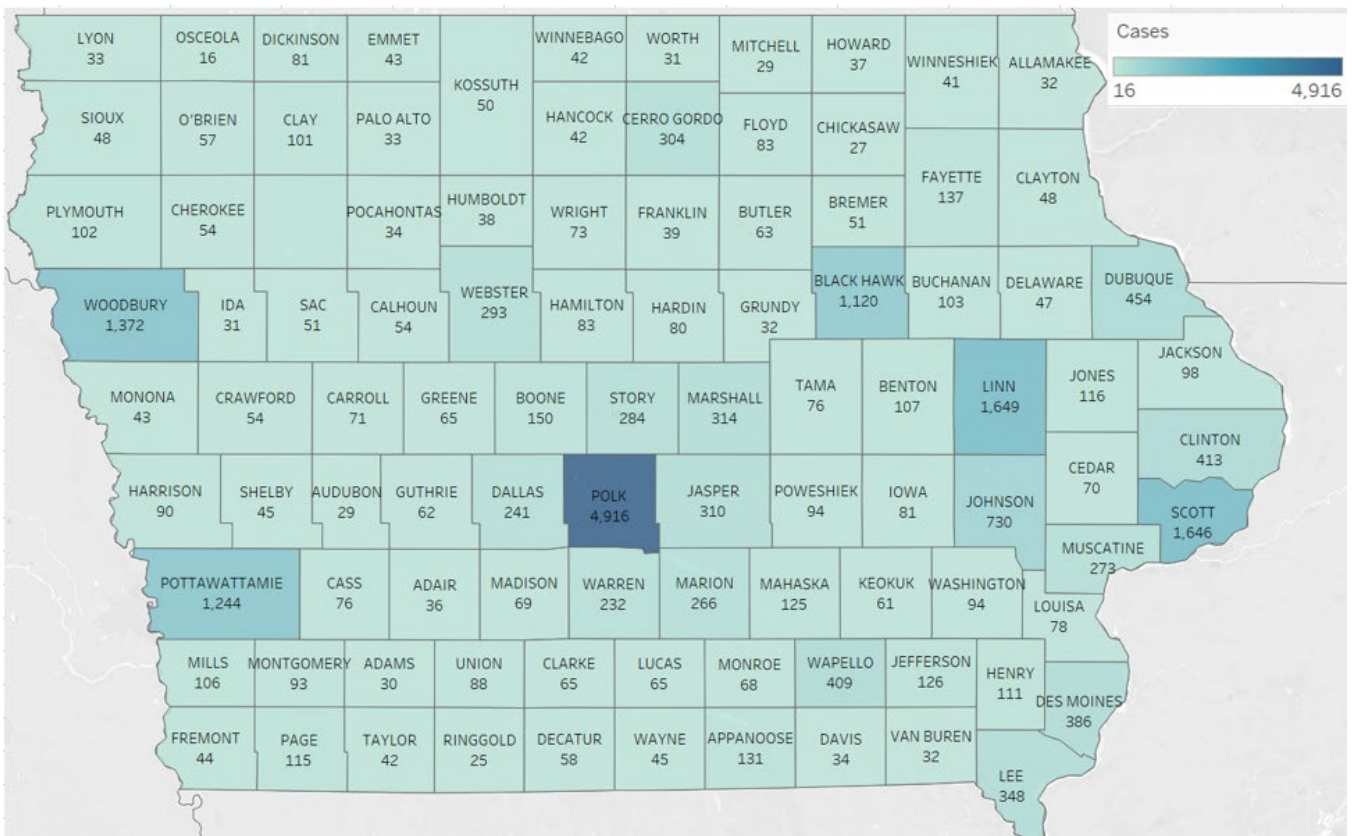
³ Centers for Disease Control and Prevention. (2015) *HIV/AIDS and Viral Hepatitis*. Retrieved from www.cdc.gov.

Distribution of lowans Diagnosed with Chronic HCV

The map below shows the county of residence for lowans reported with chronic HCV from January 1, 2000, through December 31, 2023. It indicates the counties where people were living at the time of diagnosis. There were 702 lowans reported without residence information, so this map reflects 22,323 out of the 23,025 lowans who have been reported with hepatitis C.

Iowa's ten most populous counties are home to 61% of Iowans who have been reported with HCV. This compares to 53% of Iowans who live in those ten counties (Black Hawk, Dallas, Dubuque, Johnson, Linn, Polk, Pottawattamie, Scott, Story and Woodbury).

Figure 3.9 Number of Iowans Diagnosed with HCV from 2000 through 2023, by County of Residence at Diagnosis

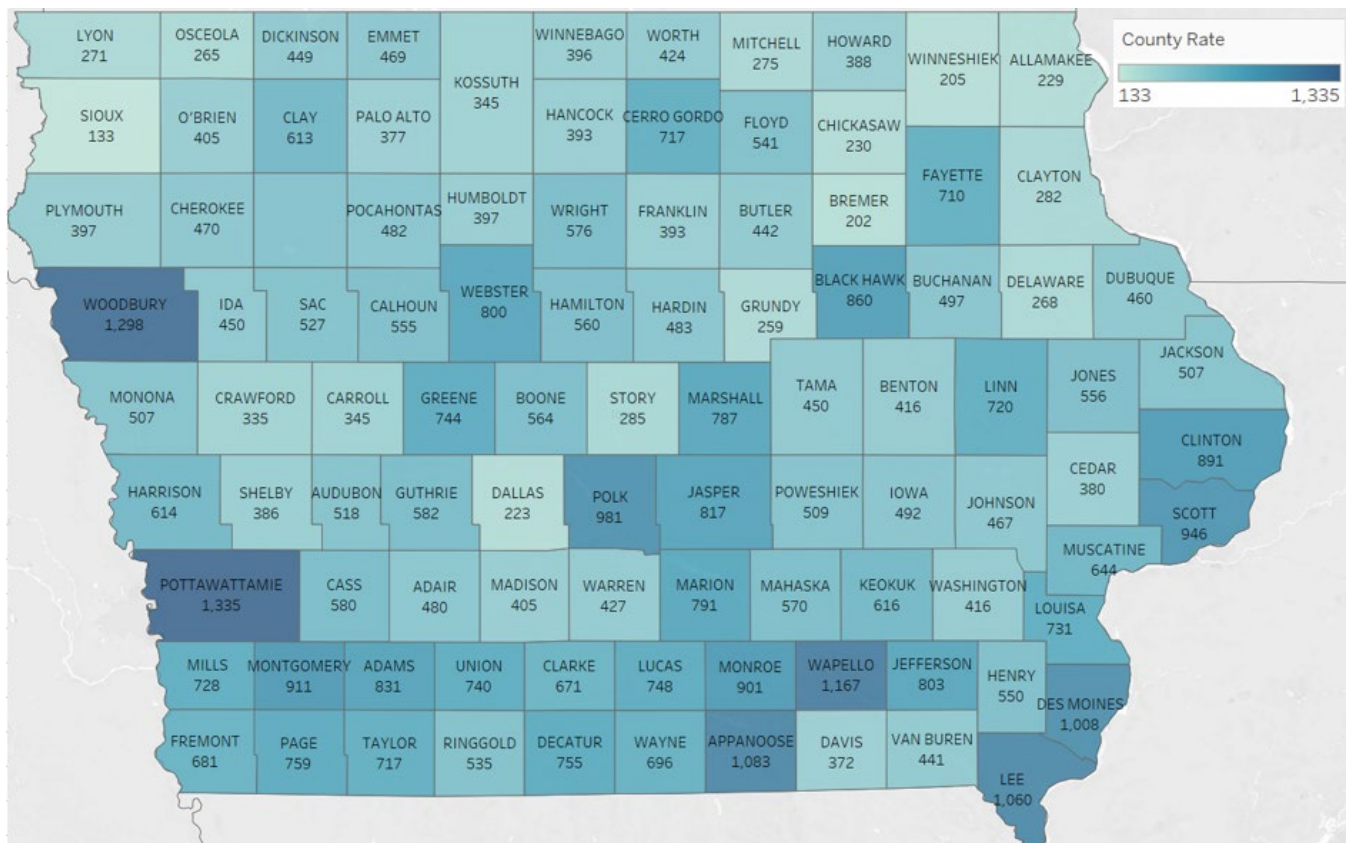


Prevalence of HCV in Iowa

Figure 3.10 shows the prevalence of HCV per 100,000 population by county for people diagnosed from January 1, 2000, through December 31, 2023. Rates were calculated based on counties where persons were living at the time of diagnosis. Woodbury County (Sioux City) in northwest Iowa and Pottawattamie County (Council Bluffs) in southwest Iowa have the highest rates at 1,335 and 1,298 cases of HCV per 100,000 population, respectively. These are followed by Wapello County (Ottumwa), Appanoose (Centerville) and Lee County (Keokuk) in far southeast Iowa. The state's overall prevalence is 697 cases per 100,000 population.

Figure 3.10

Prevalence of HCV per 100,000 Population by County of Residence at Diagnosis



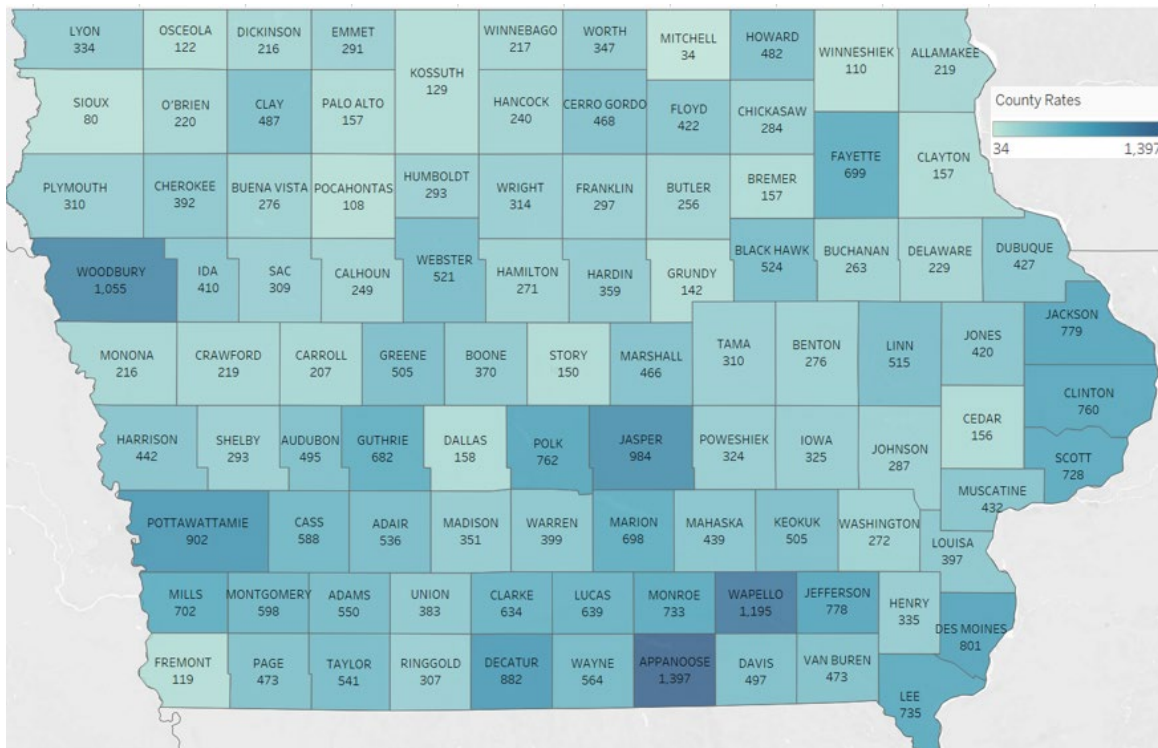
State of Iowa Chronic HCV Rate: 697 per 100,000 population

County populations are based on the 2022 U.S. Census estimates

Prevalence of HCV in Iowans Under 40 Years of Age

Figure 3.11 shows the prevalence of chronic HCV diagnoses per 100,000 population for Iowans between 15 and 39 years of age who were diagnosed from January 1, 2000, through December 31, 2023. It indicates the counties where persons were living at the time of diagnosis. A slightly different pattern of counties emerges when only people under the age of 40 at time of diagnosis are considered. Appanoose County (Centerville) in southcentral Iowa has the highest prevalence of people with HCV (1,397 per 100,000 pop). Wapello (Ottumwa) in southeast Iowa has the second highest prevalence at 1,195 per 100,000 population, followed by Jasper (Newton) and Woodbury County (Sioux City), at 984 and 1,055 cases per 100,000 population, respectively.

Figure 3.11 Prevalence of Chronic HCV in Iowans Under 40 Years of Age per 100,000 Population by County of Residence at Diagnosis



Section 4: Reporting patients with HCV in Iowa

All forms of viral hepatitis are reportable to the Iowa Department of Health and Human Services (HHS), pursuant to [Iowa Code section 139A.3](#). Detailed below are the reportable events related to hepatitis C.

What laboratory results should be reported?

Screening tests: Anti-HCV: Positive or reactive only

HCV Antibody by EIA antibody

Serology – HCV antibody (EIA)

Serology – Anti-HCV antibody test

Serology – HCV IgG antibody (EIA)

Serology – HCV IgM antibody (EIA)

Confirmatory Testing: HCV RNA, NAT, PCR, and Genotyping: All results

Polymerase Chain Reaction (PCR) (detected, equivocal, indeterminate, not detected, not quantified or not tested)

Genotype (detected, not detected or indeterminate)

Serology – RNA Qualitative (QL) (positive, negative, equivocal or not reactive)

Serology – HCV RNA (positive, negative or not done)

Serology – HCV DNA QL Log (positive, negative, equivocal or indeterminate)

Note: Both medical providers who diagnose people with HCV (acute or chronic) **and** laboratories who find positive results for viral are required to report.

Many laboratories now have automated processes (e.g., Electronic Laboratory Reporting) to report their results. The technology for automated reporting from medical providers is not fully developed at this time.

The most common method of reporting by medical providers is by completing the form titled, “Iowa Disease Reporting Card.” The form may be faxed to the number located at the top of the form. For questions, please contact Shane Scharer at (515) 657-1129.

This report is available on the Hepatitis Program page of the Iowa HHS website at: <https://hhs.iowa.gov/hiv-sti-and-hepatitis/hepatitis-program>.