



2018 End of Year Report

Hepatitis C Surveillance

Authorship – Bureau of HIV, STD, and Hepatitis
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Iowa Department of Public Health
Protecting and Improving the Health of Iowans



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Hepatitis C Virus (HCV) End-of-Year Surveillance Report: 2018

Table of Contents

Table of Contents

Executive Summary	2
Organization of the Surveillance Report	3
Definitions	3
Section 1: SOURCES OF DATA	4
Core HCV Surveillance Data	4
Co-infection with HIV and HCV	4
Population Data.....	5
Section 2: NARRATIVE SUMMARY	5
Iowans Diagnosed with Hepatitis C in 2018	5
Iowans Under 40 Diagnosed with Hepatitis C in 2018	6
Iowans Ever Diagnosed with HCV	6
Deaths of People with Hepatitis C	6
HIV and HCV Co-infection	6
Estimation of Prevalence of HCV in Iowa.....	7
Hepatitis C Surveillance Activities	7
Section 3: TABLES AND FIGURES	8
Table 3.1 Iowans Diagnosed and Reported with Chronic Hepatitis C in 2018	8
Table 3.2 Iowans Under 40 Diagnosed and Reported with Chronic Hepatitis C in 2018	9
Table 3.3 Iowans Diagnosed and Reported with Chronic HCV from 2000 through 2018.....	10
Table 3.4 Iowans Diagnosed & Reported with HIV <i>and</i> Chronic HCV, 2000 – 2018	11
Figure 3.1 Number of Iowans Diagnosed with Chronic HCV: 2000 - 2018.....	12
Figure 3.2 Number of Iowans Under 40 Years Old Diagnosed with Chronic HCV: 2000 - 2018.....	12
Figure 3.3 Number of Iowans Reported with Antibody-only or Confirmatory HCV Test Results.....	13
Figure 3.4 Diagnosis of HCV by Age Group in Iowans: 2000 through 2018	14
Figure 3.5 Iowans Diagnosed with HCV in 2018, by Age.....	14
Figure 3.6 Iowans Diagnosed with HCV by Sex: 2000 through 2018	15
Figure 3.7 Deaths of HCV-positive Iowans: 2006 through 2018.....	15
Figure 3.8 Number of Iowans Diagnosed with HCV from 2000 through 2018	17
Figure 3.9 Rates of HCV per 100,000 Population by County of Residence.....	18
Figure 3.10 Rates of Chronic HCV in Iowans Under 40 Years of Age per 100,000 Population	19
Section 4: Reporting patients with HCV in Iowa	20

Executive Summary

Here are a few points drawn from our hepatitis C (HCV) data:

- **1,512 Persons Living in Iowa Diagnosed with Chronic HCV:** In 2018, Iowa experienced a small increase (6%) in the number of people diagnosed with confirmed, chronic hepatitis C compared to 2017. Despite the increase from 2017, the number of diagnoses remained well below the peak of 1,750 diagnoses that occurred in 2015. Although the amount of HCV testing occurring at private providers across the state is unknown, testing at IDPH-funded test sites and federally qualified health centers increased in 2018 compared to 2017.
- **Sex:** Over two-thirds (63%) of Iowans diagnosed with HCV in 2018 were males. A smaller percentage (55%) of Iowans under 40 with HCV were male.
- **Birth Cohort:** Forty-eight (48) percent of people diagnosed with HCV in 2018 were considered to be 'baby boomers,' or those born between 1945 and 1965, while 27% were people born after 1978 (under 40 years of age). Only 1% of people diagnosed with HCV in 2018 were born before 1945.
- **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 2018, 89% of people diagnosed were non-Hispanic white, 4% of people were Latino, 5% were African American/black, 1% were Asian, and less than 1% were other races. However, it is important to note that these numbers only reflect people who have been diagnosed.
- **People Under 40 Years of Age Diagnosed with HCV:** Diagnoses among people under the age of 40 increased by 18% from last year, but remained below the peak of 479 reached in 2016. There were 411 persons under 40 years of age diagnosed with chronic HCV in 2018, accounting for 27% of all diagnoses. Among those under 40, 13% were between the ages of 20 and 24, 37% were between 25 and 30, 20% were between 31 and 34, and 26% were between 35 and 39 years of age. An analysis of surveillance data indicated that, of the 409 persons under the age of 40 who were eligible for follow up, 79% reported injection drug use as a mode of exposure.
- **Iowans Diagnosed with HCV Since 2000:** There have been 26,165 Iowans ever reported to IDPH with current or past HCV. Of those, 516 were reported before the year 2000, so data, including demographics, are quite limited. Of the 26,165 persons reported to IDPH with past or current HCV from 2000 through 2018, 18,009 had evidence of chronic HCV. Of the 8,156 Iowans reported to IDPH with only a positive hepatitis C screening result, it is estimated that 15 to 25% cleared the virus spontaneously. The remaining 75 to 85% likely have or had chronic hepatitis C. Among Iowans ever diagnosed with chronic HCV, nearly half (48%) were baby boomers at time of diagnosis, and 22% were under 40 years of age at diagnosis. Nearly two-thirds (63%) were male, and 88% were white, non-Hispanic. It should be noted that race and ethnicity information were not reported for 44% of people diagnosed with HCV and reported to IDPH since 2000. However, the quality and completeness of reporting data has improved since 2015.
- **Iowans Diagnosed with HIV and HCV:** An analysis of co-infection of HIV and HCV revealed that 262 Iowans had been reported to IDPH as having both HIV and chronic HCV. Among them, 262 (77%) were alive at the end of 2018, indicating that 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 within a person's blood. It indicates a person was exposed to HCV 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.

Section 1: SOURCES OF DATA

Core 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 communicable 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 were defined by the following criteria:

Screening tests: *(usually reported as positive or negative)*

- HCV Antibody Signal/Cutoff by EIA antibody (See Interpretation & Numeric Result 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, or See Interpretation & Numeric Result)
- Serology – HCV IgM antibody (EIA) (positive, negative, equivocal, not reactive, or See Interpretation & Numeric Result in lab report)

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 reported in Iowa and 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 potentially significant numbers of Iowans with HCV may have never been reported to IDPH. In addition, these data do not include information on people who have contracted the virus, but who have not been diagnosed. Nationally, CDC estimates that approximately half of people with HCV are undiagnosed.

Co-infection with HIV and HCV

Iowans living with both HIV and HCV were determined by a match between IDSS and the Iowa electronic 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 IDPH, are included in eHARS. All reports of HCV as of 12/31/2018 were matched to HIV reports in eHARS as of 12/31/2018. Matches were based on date of birth, last name, and Soundex of 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 2018 population estimates from the U.S. Census Bureau (<http://www.census.gov>) to calculate rates.

Section 2: NARRATIVE SUMMARY

lowans Diagnosed with Hepatitis C in 2018

There were 1,512 lowans diagnosed with chronic hepatitis C (HCV) in 2018. This is an increase of 82 people (6%) from 1,430 in 2017, and slightly above the average of 1,495 for the previous five years (2013 through 2017). As seen in Figure 3.1, the annual number of people diagnosed with chronic HCV increased steadily from 2000 through 2015, and peaked at 1,750 diagnoses in 2015 before dropping slightly in 2016 and 2017. In 2018, while there was a decrease among older lowans (baby boomers and older) who were diagnosed, there was a significant increase among lowans under 52 years of age who were diagnosed with chronic hepatitis C.

Case Status

There were 1,595 lowans reported with past or current (chronic) HCV in 2018. Ninety-five percent had evidence of a confirmatory (PCR) test indicating chronic HCV, while 5% (83) of lowans had only antibody positive results reported to IDPH. An antibody test for HCV is essentially a screening test. It is estimated that 75 to 85% of people with positive antibody results are living with chronic HCV, while 15 to 25% will clear the virus on their own. In addition, there were 2,167 lowans reported to IDPH with a positive antibody result and a negative PCR result. These patients may have spontaneously cleared the virus, or had a false antibody positive result. For patients who had a positive antibody result, but were not exposed to HCV, the result was likely false positive. Patients with a rapid antibody result who were exposed to HCV, primarily through injection drug use, likely spontaneously cleared the virus during the acute phase.

Sex

In 2018, 63% of lowans diagnosed with chronic HCV were males. An analysis of people under 40 reported with HCV reveals that the distribution is slightly different, with males representing only 55% of diagnosed lowans. The change in distribution of HCV among sexes in the under 40 population is important to note, as HCV can be transmitted perinatally by women to their infants.

Birth Cohort

Forty-eight (48) percent of people diagnosed with HCV in 2018 were considered to be 'baby boomers,' or those born between 1945 and 1965, while 27% were people born after 1978 (under 40 years of age at diagnosis). About 23% of people diagnosed in 2018 were born between 1966 and 1978 (between the ages of 40 and 52 years of age at diagnosis). A significantly smaller percentage (1%) of people reported with HCV in 2018 were born before 1945.

Ethnicity and Race

Unlike for HIV and other sexually transmitted infections, there are not significant racial and ethnic disparities among lowans diagnosed with HCV. In 2018, 89% of people diagnosed were non-Hispanic white, 4% of people were Hispanic/Latino, 5% were black/African American, 1% were Asian, and less than 1% were other races.

Iowans Under 40 Diagnosed with Hepatitis C in 2018

There were 411 Iowans under 40 diagnosed with chronic HCV in 2018, representing 27% of all Iowans diagnosed. While this represents an increase compared to 2017, it was below the peak of 479 reached in 2016. Among those under 40 diagnosed in 2018, 3% were under 20 years of age, 13% were between the ages of 20 and 24, and 32% were between 25 and 29 years of age, 26% were between 30 and 34 years of age, and 26% were between 35 and 39 years of age. There were two reports of diagnosed HCV among Iowa children under 13 years of age in 2018 that met the case definition for perinatal hepatitis C. An analysis of surveillance data indicated that, of the 411 persons under 40 who were eligible for follow up, 79% of people disclosed injection drug use to their health care providers. Race and ethnicity of Iowans under 40 diagnosed with HCV was similar to the overall population. Eighty-nine percent of Iowans under 40 diagnosed with HCV in 2018 identified as white, 6% identified as Latino, 4% identified as Black/African American, and less than 1% identified as other races.

Iowans Ever Diagnosed with HCV

There have been 26,165 Iowans ever reported to IDPH with current or past HCV. Among those Iowans, 516 were reported before the year 2000, so data are quite limited. Of the 26,165 persons reported to IDPH with past or current HCV from 2000 through 2018, 18,009 had evidence of chronic HCV. This means that a positive HCV RNA result was reported for these Iowans. Of the 8,156 Iowans reported to IDPH with only a positive hepatitis C screening result, it is estimated that 15 to 25% cleared the virus. The remaining 75 to 85% likely have chronic hepatitis C. Among Iowans diagnosed with chronic HCV since 2000, nearly half (45%) were baby boomers at diagnosis and 21% were under 40 years of age at diagnosis. Nearly two-thirds (63%) were male, and 88% were white, non-Hispanic. It should be noted that race and ethnicity information were not reported for 44% of people diagnosed with HCV and reported to IDPH since 2000. Active surveillance of hepatitis C did not begin until 2015 in Iowa, which limited the completeness of data reporting. Fourteen percent of Iowans reported with chronic HCV since 2000 have had genotype testing, which may be indicative of hepatitis C treatment.

Deaths of People with Hepatitis C

From 2000 to 2017, the number of Iowans with hepatitis C who died increased annually. There was a slight decrease in 2018, when there were 316 Iowans with hepatitis C who died. There were 1,914 Iowans with hepatitis C who died between 2000 and 2018. The number of deaths among Iowans diagnosed with hepatitis C decreased 10% from 2017 to 2018. The causes of deaths were not necessarily related to their hepatitis C diagnoses. Mortality related to HCV and among people living with HCV is likely underestimated, as death certificates often underreport HCV infection, and around half of people with HCV are undiagnosed.

HIV and HCV Co-infection

An analysis of Iowans with HIV and HCV revealed that 263 Iowans had been reported to IDPH since 2000 as diagnosed with both HIV and chronic HCV. Among them, 203 (77%) were alive at the end of 2018, indicating that 7% of people living with HIV have also been diagnosed with chronic HCV. Ryan White Part C clinics have been making concerted efforts to treat Iowans living with HIV for their HCV. HCV treatment is covered by the AIDS Drug Assistance Program (ADAP). Most people who have been diagnosed with HIV and HCV, 79%, were males, and white, non-Hispanic, 63%. It is important to note that while 4% of Iowans diagnosed with HCV identify as black or African American, 24% of Iowans with both HIV and HCV are black or African American.

Estimation of Prevalence of HCV in Iowa

As of December 31, 2018, there were 26,165 Iowans reported to IDPH with past or current (chronic) hepatitis C infection. Among these Iowans, 18,009 had evidence of chronic infection, while 8,156 had only positive antibody (screening) results reported. The Centers for Disease Control and Prevention estimate that 15 to 25% of people with HCV clear the infection spontaneously, so it is likely that 75 to 85% of the 8,156 persons with only antibody results reported actually have chronic HCV infection.

Hepatitis C Surveillance Activities

Active public health surveillance of hepatitis C virus began in 2015 at the Iowa Department of Public Health in the Bureau of HIV, STD, and Hepatitis. At that time, IDPH 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 use behavior. 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 indicate that Iowans 30 to 39 are 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, IDPH began surveillance follow up with healthcare providers for all Iowans reported to IDPH 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 the confirmatory testing to patients. If health care providers cannot reach a patient, the Hepatitis Data Coordinator at IDPH will attempt to contact the patient directly to discuss options for confirmatory testing.

Section 3: TABLES AND FIGURES

Table 3.1 Iowans Diagnosed and Reported with Chronic Hepatitis C in 2018

Characteristics	Iowans Diagnosed with Chronic HCV	
	Number	(%)
Sex at Birth		
Male	950	(63)
Female	562	(37)
Age at Diagnosis		
Under 20 years of age	11	-
20 – 29 years of age	186	(12)
30 – 39 years of age	214	(14)
40 – 49 years of age	259	(17)
50 – 59 years of age	479	(32)
60 – 69 years of age	320	(21)
70 years of age and older	43	(3)
Birth Cohort Year		
Under 40 years of age (0 – 39 years of age)	411	(27)
Baby Boomers (53 – 73 years of age)	724	(48)
Born before 1945 (74 years of age and older)	22	(1)
All other ages (40 – 52 years of age)	355	(23)
Ethnicity/Race		
Hispanic/Latino, All Races	56	(4)
Not Hispanic, White	1,344	(89)
Not Hispanic, Black/African American	78	(5)
Not Hispanic, Asian	21	(1)
Not Hispanic, Native Hawaiian/Pacific Islander	0	-
Not Hispanic, American Indian/Alaska Native	13	-
Not Hispanic, Multi-race	0	-
Case Status		
Confirmed HCV (positive confirmatory result)	1,512	-
Past or current HCV (positive screening test)	83	-
Totals	1,512	(100)

Table 3.2 Iowans Under 40 Diagnosed and Reported with Chronic Hepatitis C in 2018

Characteristics	People reported with HCV Diagnosis	
	Number	(%)
Sex at Birth		
Male	225	(55)
Female	186	(45)
Age at Diagnosis		
Under 20	11	(3)
20 - 24	55	(13)
25 - 29	131	(32)
30 - 34	106	(26)
35 - 39	108	(26)
Reported Injection Drug Use		
Yes	323	(79)
No	67	(16)
Unknown	19	(5)
Not Assessed (patient under age 13)	2	(0)
Ethnicity/Race		
Hispanic/Latino, All Races	23	(6)
Not Hispanic, White	365	(89)
Not Hispanic, Black/African American	15	(4)
Not Hispanic, Asian	5	(1)
Not Hispanic, Native Hawaiian/Pacific Islander	0	(0)
Not Hispanic, American Indian/Alaska Native	3	(<1)
Not Hispanic, Multi-race	0	(0)
Case Status		
Confirmed HCV (positive confirmatory result)	411	-
Past or current HCV (positive screening test)	26	-
TOTALS	411	(100)

Table 3.3 Iowans Diagnosed and Reported with Chronic HCV from 2000 through 2018

Characteristics	People reported with HCV Diagnosis	
	Number	(%)
Sex at Birth		
Male	11,350	(65)
Female	6,445	(34)
Unknown	210	(1)
Other	4	(<1)
Age at Diagnosis		
Under 40 years of age	3,738	(21)
Under 20 years of age	189	(1)
20 – 29 years of age	1,430	(8)
30 – 39 years of age	2,119	(12)
40 – 49 years of age	3,829	(21)
50 – 59 years of age	6,835	(38)
60 – 69 years of age	3,089	(17)
70 years of age and above	518	(3)
Birth Year		
Under 40 (0 – 39 years of age)	3,738	(21)
Baby Boomers (53 – 73 years of age)	8,169	(45)
Born before 1945 (74 years of age and older)	322	(2)
All other ages (40 – 52 years of age)	5,780	(32)
Ethnicity/ Race*		
Hispanic/Latino, All Races	278	(3)
Not Hispanic, White	7,974	(88)
Not Hispanic, Black/African American	596	(7)
Not Hispanic, Asian	114	(1)
Not Hispanic, Native Hawaiian/Pacific Islander	7	(<1)
Not Hispanic, American Indian/Alaska Native	75	(1)
Not Hispanic, Multi-race	16	(<1)
Diagnosed with HIV and Chronic HCV		
Diagnosed with HIV and HCV, Alive	202	(77)
Diagnosed with HIV and HCV, Deceased	60	(23)
Case Status		
Confirmed HCV (positive confirmatory result)	18,009	-
Past or current HCV (positive screening test)	8,156	-
TOTAL	18,009	(100)

*Race and ethnicity data were missing for 50% (n=8,949) of case reports from 2000 through 2018. The percentages for racial and ethnic groups were calculated using a denominator of 9,060.

Table 3.4 Iowans Diagnosed & Reported with HIV and Chronic HCV, 2000 – 2018

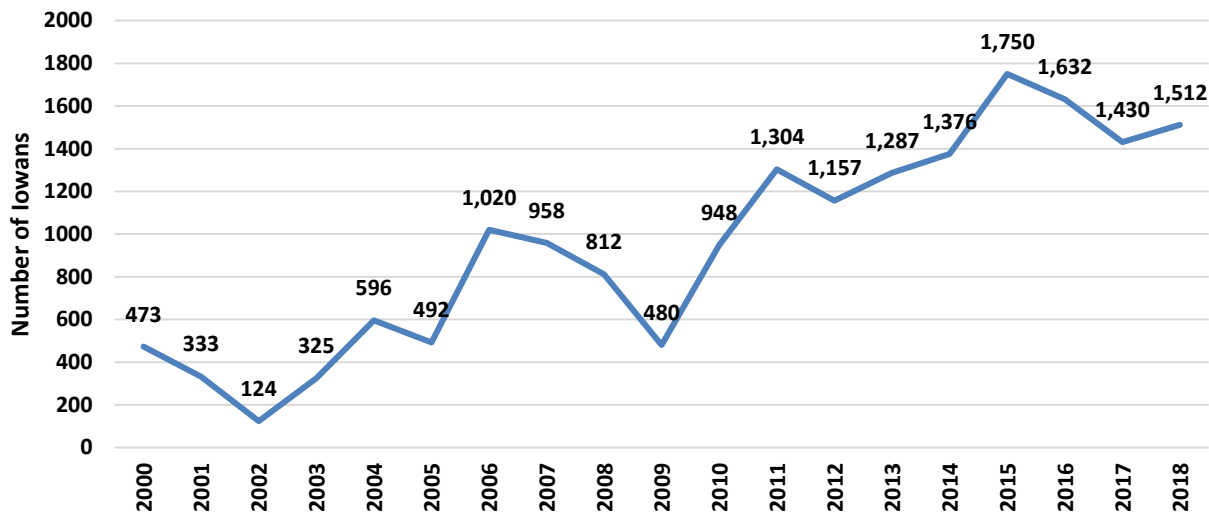
Characteristics	People Co-Infected	
	Number	(%)
Sex at Birth		
Male	208	(79)
Female	55	(21)
Birth Cohort Year		
Born after 1985	4	(3)
Born between 1966 and 1985	95	(39)
Born between 1945 and 1965 (Baby Boomers)	141	(58)
Born before 1945	3	(1)
Ethnicity/ Race		
Hispanic/Latino, All Races	19	(7)
Not Hispanic, White	166	(63)
Not Hispanic, Black/African American	62	(24)
Not Hispanic, Asian	6	(2)
Not Hispanic, Native Hawaiian/Pacific Islander	0	-
Not Hispanic, American Indian/Alaska Native	0	-
Not Hispanic, Multi-race	9	(4)
Vital Status (as of Dec. 31, 2018)		
Alive	202	(77)
Deceased	60	(23)
TOTALS	262	(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 1,750 cases. The number of Iowans diagnosed with chronic, confirmed hepatitis C in 2018 (1,512) is a slight increase from the 5-year average of 1,495 (2013 through 2018), and a 5% increase since 2017. The increase experienced in 2018 was principally among Iowans under 40 years of age.

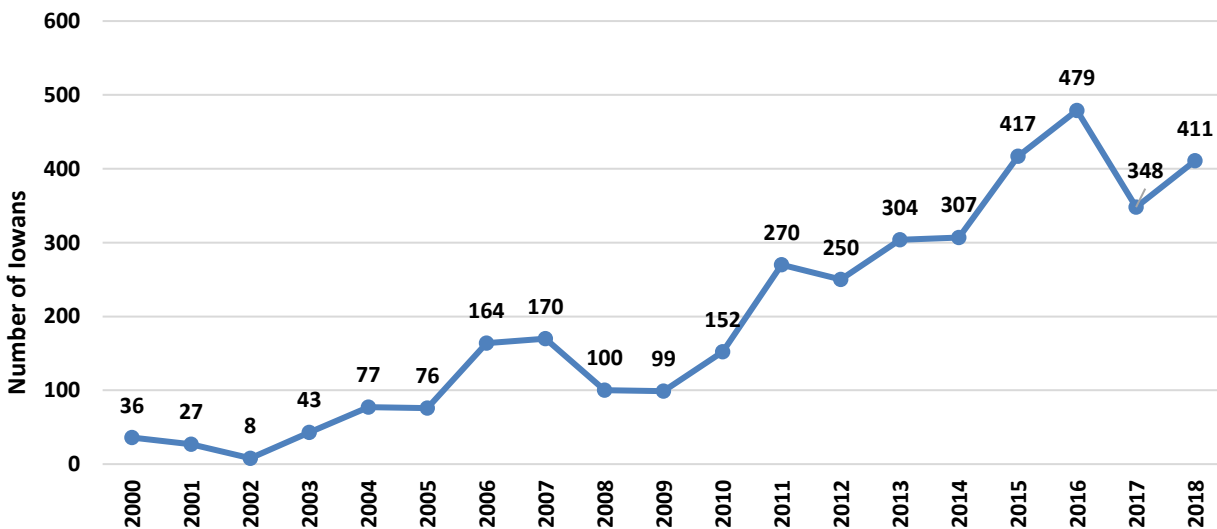
Figure 3.1 Number of Iowans Diagnosed with Chronic HCV: 2000 - 2018



Number of Iowans Under 40 Years of Age Diagnosed with Chronic HCV

The number of Iowans under 40 years of age diagnosed with confirmed HCV peaked at 479 in 2016. After a significant reduction in 2017, diagnoses again increased in 2018 to 411.

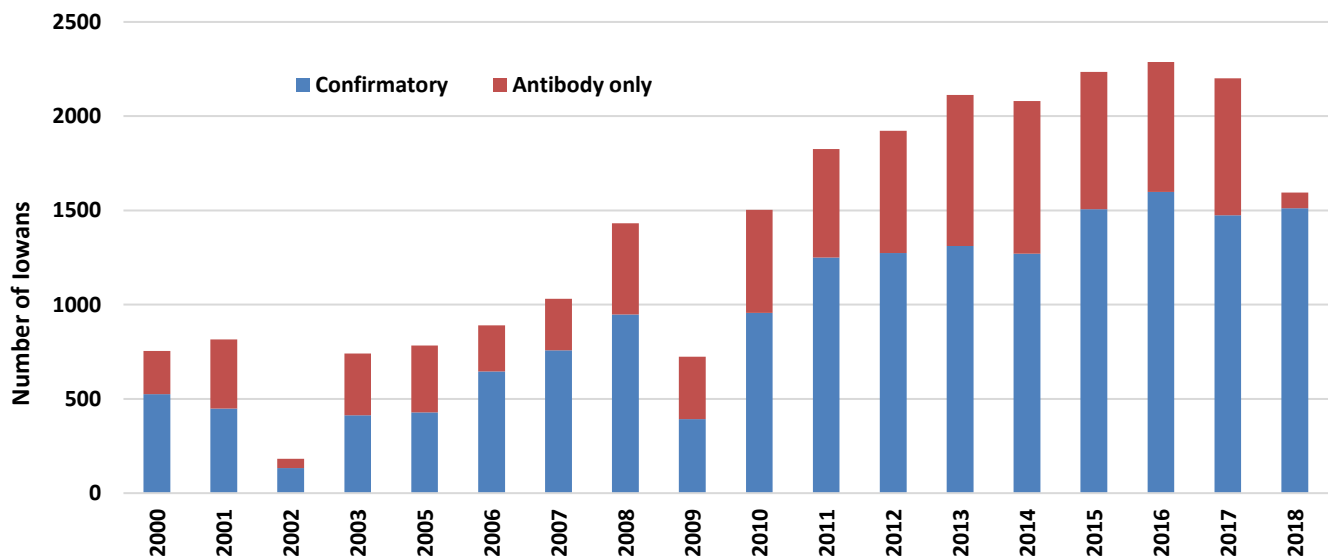
Figure 3.2 Number of Iowans Under 40 Years Old Diagnosed with Chronic HCV: 2000 - 2018



Proportion of lowans 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 2018, 95% of the 1,595 lowans reported to IDPH with HCV had evidence of a positive confirmatory test, while 5% of lowans had only screening (antibody) results reported. The proportion of people was in line with increases observed during the preceding few years. Beginning in January 2018, the IDPH Hepatitis Data Coordinator 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 lowans with a hepatitis C positive screening result receive confirmatory testing.

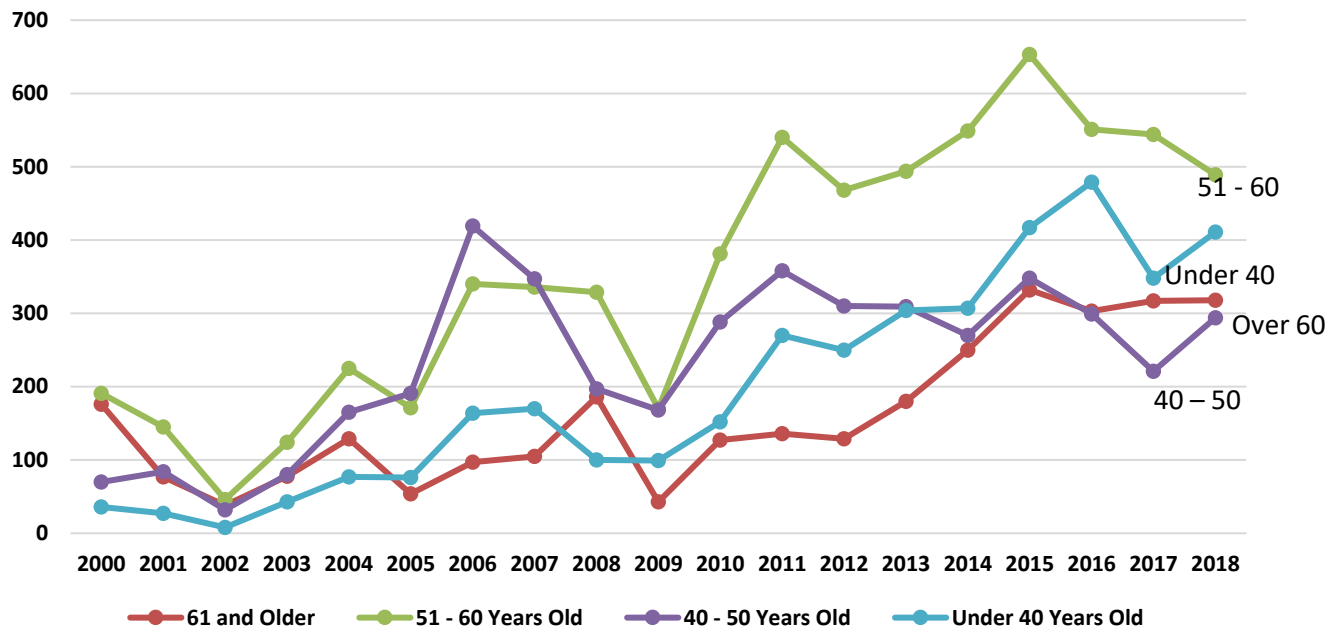
Figure 3.3 Number of lowans Reported with Antibody-only or Confirmatory HCV Test Results



Number of lowans Reported with Chronic HCV by Age Group

The largest single group of people who are diagnosed with hepatitis C are those aged 51 to 60 years. They are also the age group that has seen the most dramatic and continuous decrease in diagnoses since the peak in 2015. However, if trends continue, those under the age of 40 will soon become the group with the most diagnoses. There were 411 lowans under 40 diagnosed with chronic HCV in 2018, which was an 18% increase compared to 2017. There were 259 lowans ages 40 to 49 diagnosed with chronic HCV in 2018, representing a 29% increase from 2017. Lowans between 50 and 59 years of age experienced 479 diagnoses in 2018, representing a 9% decrease from 2017. Lowans 60 years of age and older experienced a slight decrease in diagnoses in 2018, with 363 diagnoses, down 4% from 2017.

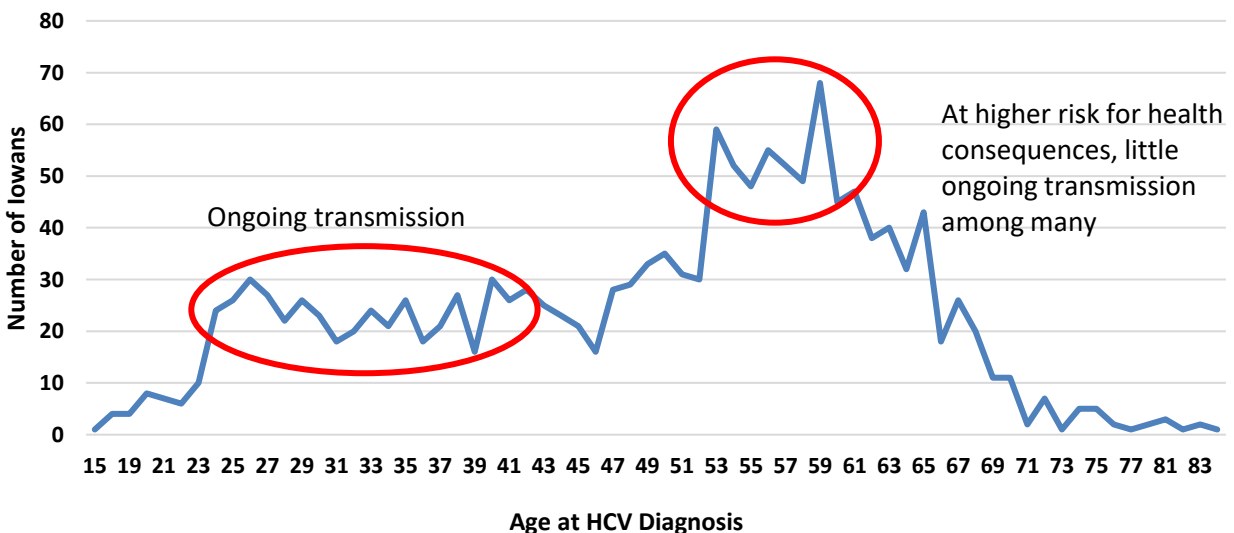
Figure 3.4 Diagnosis of HCV by Age Group in lowans: 2000 through 2018



Age at Diagnosis of HCV in 2018

A distribution by age reveals the two groups of lowans on which we have focused in this report. lowans under 40 diagnosed 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. lowans older than 50 years of age diagnosed with HCV are more likely to have acquired the virus decades ago are at higher risk for immediate health complications. Many of these “baby boomers” may have ceased injecting drugs years previously.

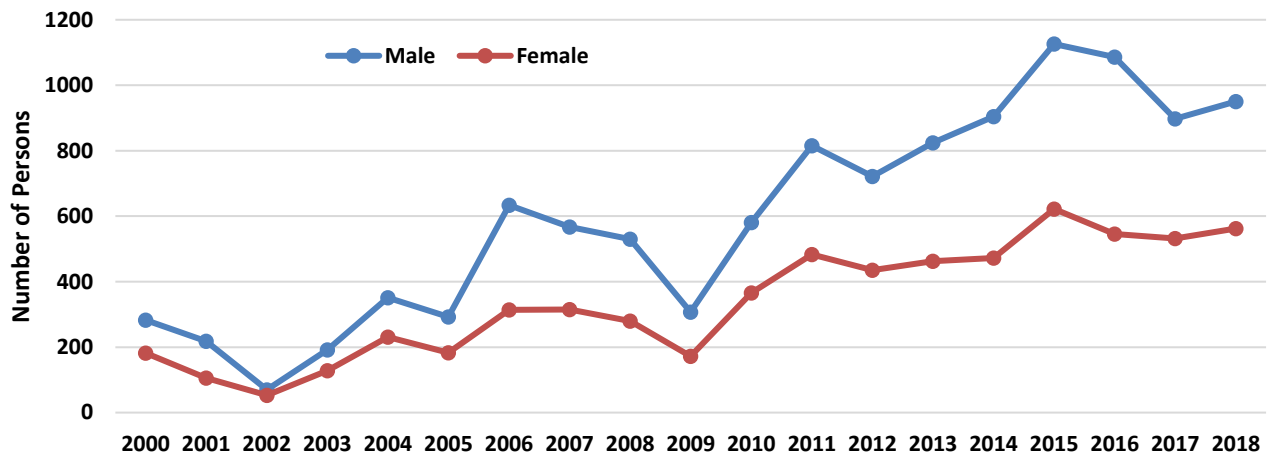
Figure 3.5 lowans Diagnosed with HCV in 2018, by Age



Number of Iowans Diagnosed with Chronic HCV in 2018, by Sex

Hepatitis C virus disproportionately impacts males. From 2000 through 2018, there were about three males diagnosed for every two females diagnosed. It's important to note that this varies by age. For people age 40 and younger diagnosed with HCV, the ratio of males to females is lower (56% males in 2018 compared to 44% females).

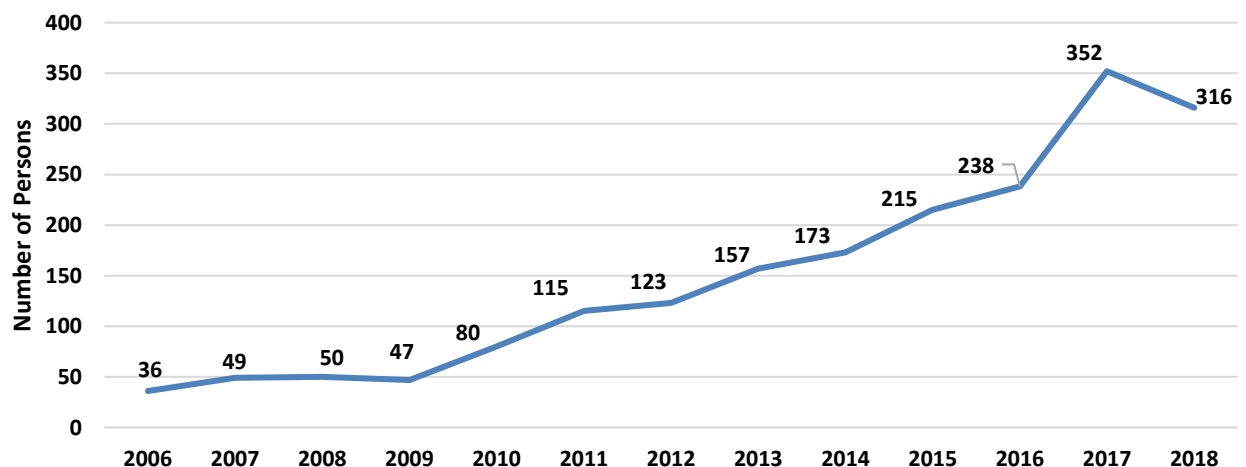
Figure 3.6 Iowans Diagnosed with HCV by Sex: 2000 through 2018



Deaths of Iowans with Hepatitis C

The number of Iowans with hepatitis C who have died generally increased from 2006 through 2017, then decreased slightly in 2018 to 316. Deaths are discovered by matching the HCV surveillance data with Vital Records and the National Death Index. An analysis of death certificate data indicated that between 2000 and 2018, there were 1,914 Iowans who died from hepatitis C-related causes, meaning that hepatitis C was listed on the death certificate. Mortality from hepatitis C is likely underestimated, as death certificates often underreport HCV infection, and approximately half of all people with hepatitis C are undiagnosed.

Figure 3.7 Deaths of HCV-positive Iowans: 2006 through 2018



Iowans Diagnosed with HIV and Chronic HCV

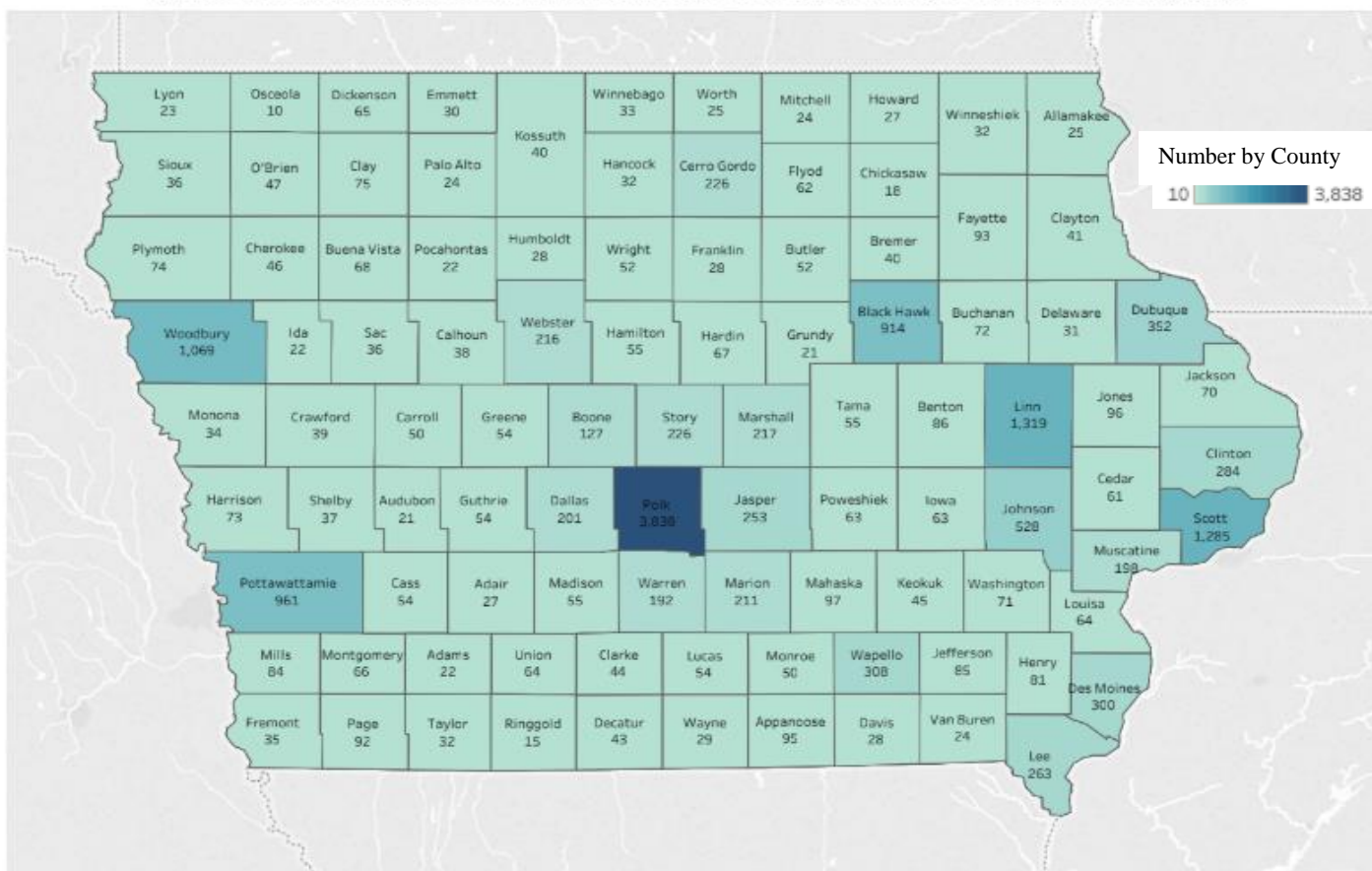
In the United States, it is estimated that 25% of people with HIV also have hepatitis C¹. Co-infection with HIV and HCV is particularly common among people who inject drugs. Iowa is a low-prevalence state for HIV disease. At the end of 2018, there were 2,872 persons diagnosed and living with HIV in Iowa. People who inject drugs represented 3% of people diagnosed with HIV in 2016, 5% in 2017, and 6% in 2018.

To ascertain co-infections of HIV and HCV among Iowans, the HIV surveillance system was matched with the HCV surveillance system for Iowans diagnosed through 2018. A total of 262 persons were ever reported to IDPH as having both HIV and chronic HCV. Of those people, 202 were alive at the end of 2018 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-infected have not been reported to IDPH as being diagnosed with HCV. The majority of people who have both HIV and HCV, 80%, were males, and white, 63%.

¹ Centers for Disease Control and Prevention. (2015). *HIV/AIDS and Viral Hepatitis*. Retrieved from www.cdc.gov.

Figure 3.8 Number of lowans Diagnosed with HCV from 2000 through 2018, by County of Residence at Diagnosis

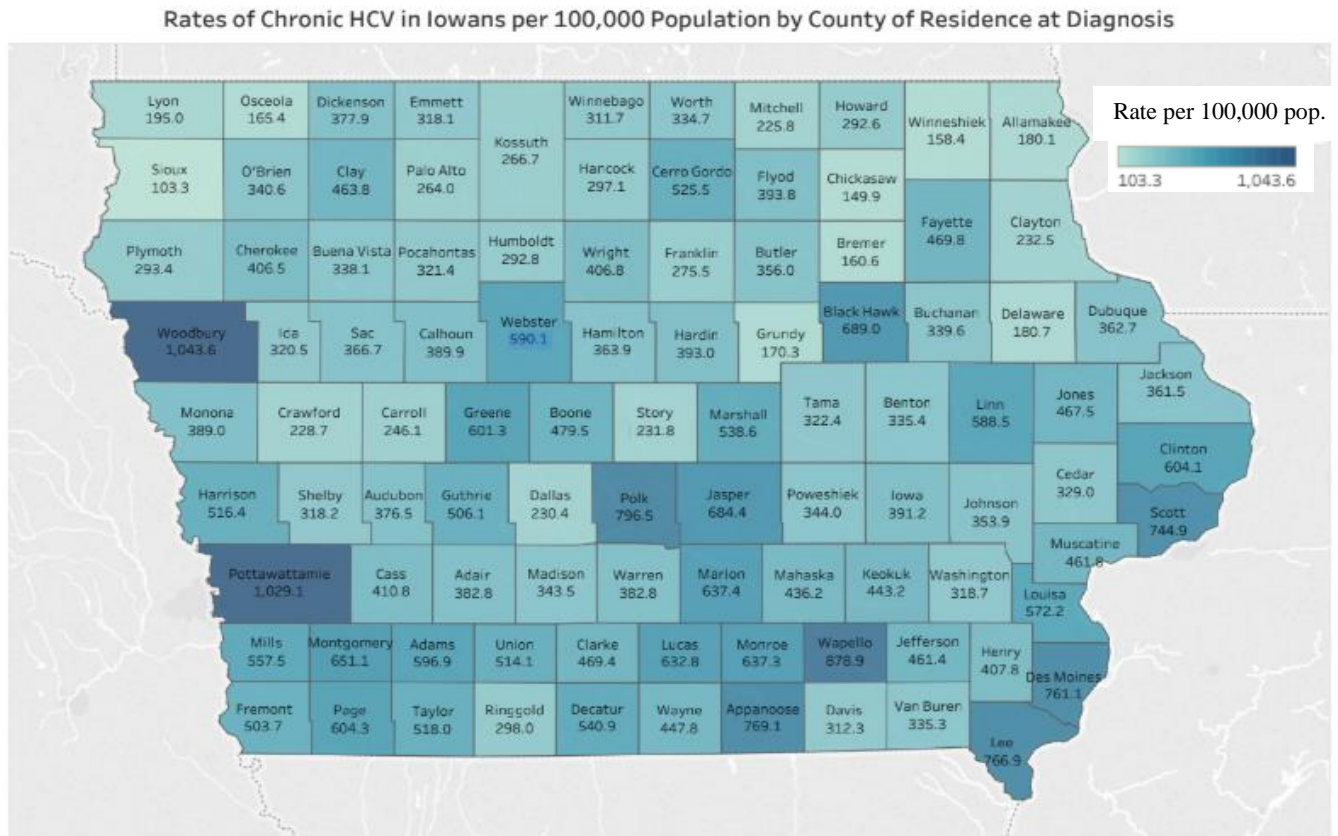
Number of lowans Diagnosed with HCV from 2000 to 2018, by County of Residence at Diagnosis



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Ctot. The marks are labeled by County and sum of Ctot.

This map shows the county of residence for lowans reported with chronic HCV from January 1, 2000, through December 31, 2018. It indicates counties where people were living at the time of diagnosis. There were 796 lowans reported without residence information, so this map reflects 16,497 out of the 18,009 lowans who have been reported with hepatitis C.

Figure 3.9 Rates of HCV per 100,000 Population by County of Residence at Diagnosis



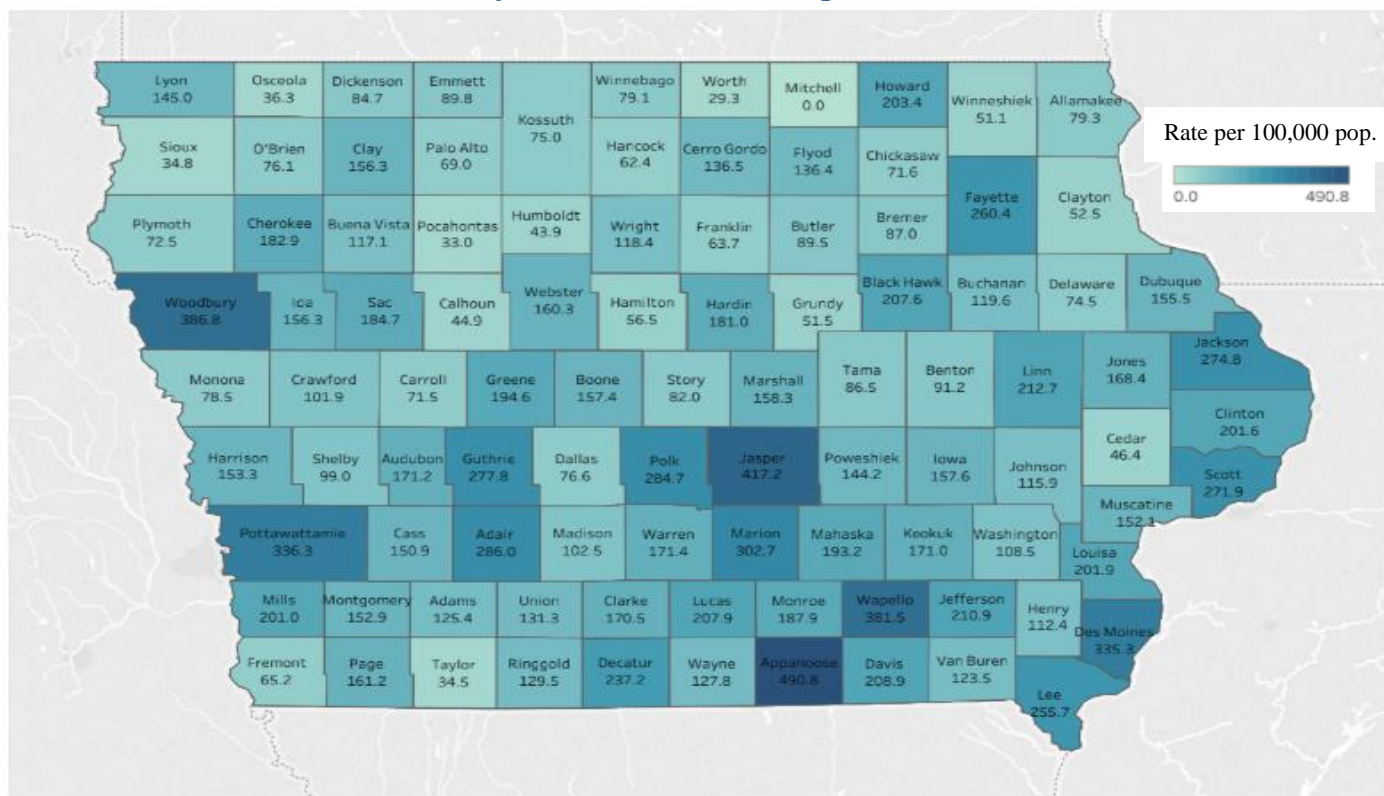
Map based on Longitude (generated) and Latitude (generated). Color shows Rtot as an attribute. The marks are labeled by County and sum of Rtot. The view is filtered on Rtot as an attribute, which keeps all values.

State Average Chronic HCV Rate: 628 per 100,000 population

This map shows the rates of HCV per county of people diagnosed from January 1, 2000, through December 31, 2018. Rates were calculated based on counties where persons were living at the time of diagnosis.

- * Indicates one of the 10 most populous Iowa counties
- County populations are based on the 2018 U.S. Census estimates

**Figure 3.10 Rates of Chronic HCV in Iowans Under 40 Years of Age per 100,000 Population
County of Residence at Diagnosis**



Map based on Longitude (generated) and Latitude (generated). Color shows sum of R39. The marks are labeled by County and sum of R39. Details are shown for C39, Ctot, Number of Records, Pop2017, Pop39 and Rtot.

This map shows the rates of HCV per county of Iowans between 15 and 39 years of age who were diagnosed with chronic HCV from January 1, 2000, through December 31, 2018. It indicates counties where persons were living at the time of diagnosis.

Because there are not many Iowans between 15 and 39 who live in Iowa counties with small population sizes, only rates are presented for the under 40 population to protect confidentiality.

Section 4: Reporting patients with HCV in Iowa

All identified forms of viral hepatitis are reportable to the Iowa Department of Public Health (IDPH), as mandated by [Iowa Code section 139A.3](#). Due to the infectious nature of each form of viral hepatitis, it is necessary that every Iowan be reported so that prevention and control efforts may be initiated by IDPH.

What laboratory results should be reported?

1. Screening tests:
 - a. Anti-HCV: Positive or reactive
2. Confirmatory Testing:
 - a. HCV RNA, NAT, or PCR: Positive or reactive test results
 - b. HCV RNA, NAT, or PCR: Negative or not detected test results
 - c. Genotyping: Detected or not detected results

Medical providers who make these diagnoses and laboratories who find positive results for hepatitis C 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](#)" located at [this link](#). The form may be faxed in to the number located at the top of the form. For questions, please contact Shane Scharer at (515) 281-5027.

See <http://idph.iowa.gov/hivstdhep/hep> for this report.

January 1, 2018, through December
31, 2018



Iowa Department of Public Health
Division of Behavioral Health
Bureau of HIV, STD, and Hepatitis

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