

Hepatitis C in Colorado 2011 Surveillance Report

Cases of Acute and Chronic Hepatitis C in Colorado

Note: This report is published by the Viral Hepatitis Program (VHP), Disease Control and Environmental Epidemiology Division, Colorado Department of Public Health and Environment, Denver Colorado. Data are presented for acute and chronic hepatitis C cases newly reported to CDPHE in 2011



**Colorado Department
of Public Health
and Environment**

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Hepatitis C

Hepatitis C is the most common chronic blood borne infection in the United States. The severity and duration of Hepatitis C can range from mild symptoms lasting a few weeks to a serious lifelong illness, leading to cirrhosis and/or cancer of the liver. Data from the National Health and Nutrition Examination Survey conducted from indicate that between 2.7 and 3.9 million people in the United States are living with the hepatitis C virus (HCV).¹ In Colorado, it is estimated that more than 70,000 residents have ever been infected with hepatitis C. Hepatitis C infections can be either “acute” or “chronic.”

Viral hepatitis surveillance in Colorado is primarily based on laboratory reporting of serologic results. Laboratory-based reporting enables the identification of asymptomatic persons infected by the virus as well as those displaying symptoms. In Colorado, the Board of Health requires physicians and other health care providers to report suspected cases of acute hepatitis C within 7 days, and laboratories to report positive HCV serologic tests (including positive serum antibody titers with signal-to-cutoff ratios or more specific tests) within 7 days. Upon receipt of these reports, either electronically, by fax, or via another reporting system, the Viral Hepatitis Program (VHP) uses established case definitions to assign the appropriate diagnosis and case status for each patient.

Acute Hepatitis C

Acute hepatitis C is the first stage of hepatitis C infection and may be identified two weeks to six months after the exposure to the virus. Many people with hepatitis C do not have symptoms and do not know they are infected. If symptoms occur, they may include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, gray-colored stools, joint pain, and jaundice. Abnormal liver function tests are one of the most characteristic features.

Chronic Hepatitis C

Up to 85% of persons infected with hepatitis C, develop chronic infection. Chronic liver disease or liver cancer develops in approximately 15 -25% of people infected with the hepatitis C virus for 20 years or longer. When symptoms appear, they are often a sign of advance liver disease and may include the same symptoms as an acute infection.

Summary of Surveillance

If a variable is reported as missing, the information was not located by the disease investigators. If the variable is reported as unknown, then the investigator asked the question or located the information in a report and it was marked unknown. For example, a case investigator reviewed a medical record for a case and found a question related to race that was not marked. In that case, the variable was “missing”. If a person did not know whether or not their household contacts had hepatitis C, they would respond “don’t know” or “unknown”.

Gender

In 2011, a total of 36 acute cases of hepatitis C were reported in Colorado. Of these, men and women each had eighteen reported cases of acute hepatitis infection. For chronic HCV infections, 64% of the total 3070 reported cases were among men (n=1961), as compared to 1,104 (36%) in women.

Age

Persons 30-39 years of age had the highest number of reported acute cases (n=12; 33%). For chronic infections, persons 50-59 years of age had the highest number of reported cases (n=1055; 34%). These reports support recent recommendations by the U.S. Centers for Disease Control and Prevention (CDC). The recommendation states that “Adults born during 1945-1965 should receive one-time testing for HCV without prior ascertainment of HCV risk”⁴

Race/Ethnicity

Data on race and ethnicity was missing, unknown, or reported as other for almost half of the reported cases of chronic HCV (n=1471; 72%). Among the reported cases that included race, White non-Hispanics also had the highest number of chronic cases (n=1061; 35%). Rates per 100,000 were done using the 2011 estimates from the US Census Bureau, Population Division.²

Risk Factors

Risk factor data was added to the 2011 statistics. These data include: injection drug use (IDU), household contact, sex contact, men who have sex with men (MSM), born in endemic country, and perinatal. These data were obtained through patient interviews, medical record reviews, or information provided by a physician, hospital, or other healthcare provider. The VHP collected risk factor information on 31 (86%) acute HCV cases and 1017 (33%) chronic cases.

County Distribution

Acute hepatitis C was reported in 14 of the 64 Colorado counties. Chronic hepatitis C was reported in 61 of the 64 Colorado counties. Sixty-six percent of cases were reported from counties along Colorado's front range (Adams, Arapahoe, Boulder, Denver, El Paso, Jefferson, Larimer, Pueblo, and Weld.) Outside of Denver, rural and frontier counties (rural areas sparsely populated that are isolated from population centers and services), had the highest rates of reported chronic cases. However, this is based on small numbers of cases reported, and five rural and frontier counties did not report a case. Incarcerated HCV chronic cases are counted in the "Unspecified" section under Colorado Department of Corrections (CDOC).

Figure 1 map shows the rate distribution of hepatitis C per 100,000 county populations in Colorado. The rate is calculated using the 2011 estimated population figures from the Colorado Division of Local Government, Demography section.³

¹ [Armstrong GL et al. The prevalence of Hepatitis C virus infection in the United States, 1999 through 2002. Ann Int Med 2006;144:705-14.](#)

² [http://www.ncbi.nlm.nih.gov/sites/entrez/16702586%20](#)

² [http://www.census.gov/popest/data/state/asrh/2011/SC-EST2011-03.html](#)

³ [http://www.colorado.gov/cs/Satellite/DOLA-Main/CBON/1251590805419](#)

⁴ "Recommendations for the Identification of Chronic Hepatitis C Virus Infection Among Persons Born During 1945-1965", MMWR 2012, 61(RR04); 1-18

Table 1: Confirmed, Probable, and Suspect Reported Hepatitis C Cases by Case Status, Sex, Age, and Race
Colorado, 2011

	Acute HCV Cases		Chronic HCV Cases*			
	Number	%**	Number	%**	Total Number	Rate of Reported Cases/100,000***
Total	36	100%	3070		3106	60.6
Case Status						
Confirmed	28	78%	2896	94%	2924	57.1
Probable	7	19%	3	0%	10	0.1
Suspect	1	3%	171	6%	172	3.3
Sex						
Male	18	50%	1961	64%	1979	77
Female	18	50%	1104	36%	1122	44
Unknown	0	0%	5	0%	5	
Age						
0-4	0	0%	6	0%	6	1.7
5-9	0	0%	6	0%	6	1.7
10-19	1	3%	39	1%	40	5.8
20-29	5	14%	310	10%	315	42.6
30-39	12	33%	466	15%	478	67
40-49	10	28%	736	24%	746	104.4
50-59	5	14%	1055	34%	4060	148.4
60+	3	8%	441	14%	444	53.1
Unknown	0	0%	11	0%	11	
Race/Ethnicity					11	
Hispanic	8	22%	335	11%	343	32
White non-Hispanic	26	72%	1061	35%	1087	30.4
Black non-Hispanic	1	3%	158	5%	159	81.1
American Indian	1	3%	24	1%	25	76.1
Asian/Pacific Islander	0	0%	19	1%	19	12.8
Multiple	0	0%	2	0%	2	1.9
Other/Missing/Unknown	0	0%	1471	48%	1471	

* Chronic cases may include 5%-10% of those cases that were also reported as acute cases in the same year

**Decimal places are rounded up or down for percentages.

***Rates were calculated for everything except race and ethnicity using the 2011 Census Estimates from the Demography Section, Colorado Division of Local Government: : <http://www.colorado.gov/cs/Satellite/DOLA-Main/CBON/1251590805419>. Rates calculated for counties with a small number of reported cases should be interpreted with caution.

Table 2: Reported Hepatitis C Cases by Risk Factor, and Percentage of Cases Reporting the Risk Factor , Colorado, 2011 ***

	Acute HCV Cases		Chronic HCV Cases		
	Number	%	Number	%	Total Number
Total	36		3070		3106
Risk Factors***					
IDU					
No	18	50%	162	5%	114
Yes	13	36%	338	11%	8
Missing	5	14%	2053	66%	255
Unknown	0		517	17%	146
Household Contact					
No	7	19%	0	0%	0
Yes	3	8%	4	0%	7
Missing	8	22%	3066	99%	512
Unknown	0		0	0%	0
Sex Contact					
No	0		0		0
Yes	14	39%	48	2%	9
Missing	22	61%	3022	97%	510
Unknown	0		0		0
MSM					
No	0		17	1%	18
Yes	9	25%	25	1%	16
Missing	27	75%	1435	46%	156
Unknown	0		484	16%	118

*** Risk factor categories are not mutually exclusive

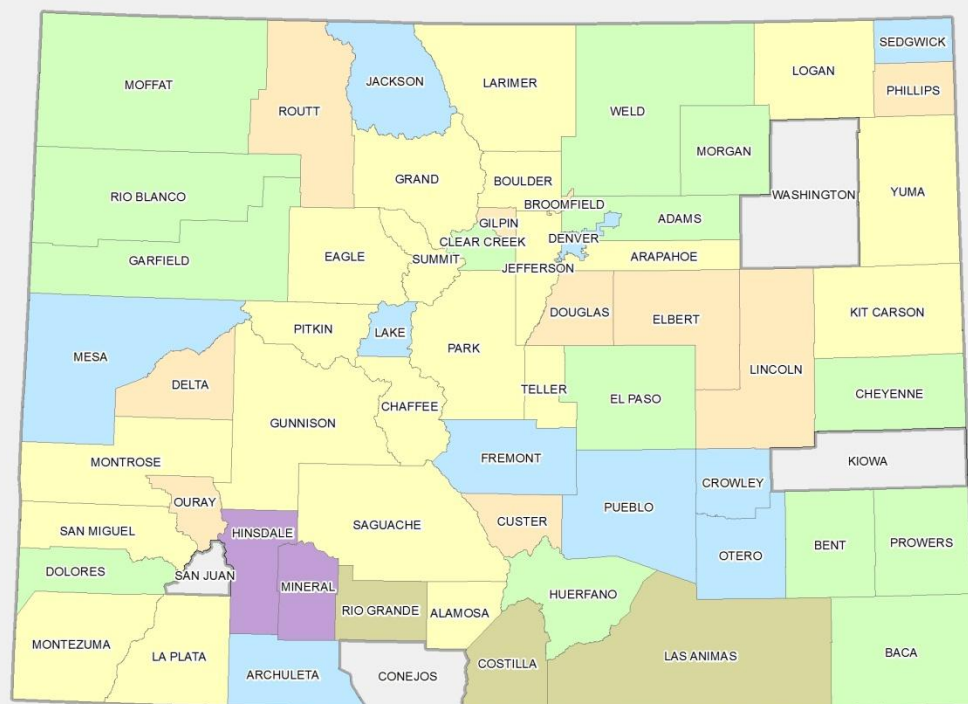
Table 3: Number and Percentage of Reported Acute and Chronic Hepatitis B Cases by County of Residence, Colorado, 2011

	Acute Cases	% **	Chronic Cases	% **	Total Number	Rate of Reported Cases/100,000***
Total	36		3070		3106	60.6
County of Residence						
Adams	1	3%	234	9%	235	10.4
Alamosa	0	0%	5	<1%	5	2.1
Arapahoe	3	8%	229	23%	232	20.2
Archuleta	0	0%	9	0%	9	0
Baca	0	0%	2	<1%	2	26.4
Bent	0	0%	3	0%	3	0
Boulder	0	0%	84	5%	84	8.3
Broomfield	1	3%	10	<1%	11	3.4
Chaffee	1	3%	5	0%	6	0
Cheyenne	0	0%	1	0%	1	0
Clear Creek	0	0%	6	0%	6	0
Conejos	0	0%	3	0%	3	0
Costilla	0	0%	5	0%	5	0
Crowley	0	0%	4	0%	4	0
Custer	0	0%	1	0%	1	0
Delta	0	0%	8	0%	8	3.1
Denver	7	19%	574	19%	581	3.9
Dolores	0	0%	1	0%	1	0
Douglas	2	6%	54	4%	56	7.2
Eagle	0	0%	15	0%	15	0
El Paso	3	8%	314	10%	317	8.6
Elbert	0	0%	6	<1%	6	4.2
Fremont	0	0%	34	0%	34	0
Garfield	0	0%	28	<1%	28	1.7
Gilpin	0	0%	1	0%	1	0
Grand	1	3%	4	0%	5	0
Gunnison	1	3%	4	0%	5	0
Hinsdale	0	0%	2	0%	2	0
Huerfano	0	0%	4	<1%	4	14.7
Jackson	0	0%	1	<1%	1	69.8
Jefferson	4	11%	221	7%	225	6.8
Kiowa	0	0%	0	0%	0	0
Kit Carson	0	0%	3	0%	3	0
La Plata	0	0%	22	0%	22	0
Lake	0	0%	6	0%	6	0
Larimer	1	3%	122	4%	123	6.2
Las Animas	0	0%	18	0%	18	0
Lincoln	0	0%	1	0%	1	0

Table 3: Number and Percentage of Reported Acute and Chronic Hepatitis B Cases by County of Residence, Colorado, 2011

	Acute Cases	% **	Chronic Cases	% **	Total Number	Rate of Reported Cases/100,000***
Total	36		3070		3106	60.6
County of Residence						
Logan	1	3%	6	<1%	7	4.3
Mesa	0	0%	103	<1%	103	2.6
Mineral	0	0%	3	0%	3	0
Moffat	0	0%	7	0%	7	0
Montezuma	0	0%	10	<1%	10	3.8
Montrose	0	0%	17	0%	17	0
Morgan	0	0%	13	<1%	13	7
Otero	0	0%	16	0%	16	0
Ouray	0	0%	1	<1%	1	21.7
Park	0	0%	5	0%	5	0
Phillips	0	0%	1	0%	1	0
Pitkin	0	0%	6	<1%	6	11.4
Prowers	1	3%	5	0%	6	0
Pueblo	9	25%	140	1%	149	4.3
Rio Blanco	0	0%	4	0%	4	0
Rio Grande	0	0%	14	0%	14	0
Routt	0	0%	2	0%	2	0
Saguache	0	0%	2	0%	2	0
San Juan	0	0%	0	0%	0	0
San Miguel	0	0%	2	0%	2	0
Sedgwick	0	0%	2	0%	2	0
Summit	0	0%	8	<1%	8	6.9
Teller	0	0%	9	0%	9	0
Washington	0	0%	0	0%	0	0
Weld	0	0%	123	6%	123	10.8
Yuma	0	0%	3	0%	3	0
Unspecified	0	0%	524	8%	524	

Total Unspecified	Chronic HCV Cases	
	Number	%
CDOC	380	73%
FCI	36	7%
Unknown	108	21%



**Reported Hepatitis C Cases
Colorado, 2011
Colorado Electronic Disease
Reporting System (CEDRS)**

Legend

Hepatitis C rates by county 2011

Rate per 100,000

- 0.00
- 0.01 - 25.50
- 25.51 - 43.00
- 43.01 - 65.50
- 65.51 - 110.00
- 110.01 - 199.50
- 199.51 - 410.00

The rate is calculated using the Estimated 2011 Census figures from the Colorado Division of Local Government, Demography section. Rates calculated for counties with a small number of reported cases should be interpreted with caution.

