

Hepatitis C in Colorado 2013 Surveillance Report

Cases of Acute Hepatitis C and Chronic Hepatitis C (past or present) 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 2013. Technical notes and a public health surveillance summary follow the presentation of the data tables and figure.



Colorado Department
of Public Health
and Environment

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Table 1: Reported Hepatitis C Cases by Case Status, Sex, Age, and Race: Colorado, 2013

	Acute HCV Cases		Past or Present HCV Cases †		All HCV Cases	
	Number	Percent of Total	Number	Percent of Total	Total	Rate of Reported Cases/ 100,000 ‡
Total	23		3253		3276	62.2
Case Status						
Confirmed	22	91.7%	2982	91.6%	3003	57.0
Probable	0	0.0%	0	0.0%	0	0.0
Suspect	1	8.3%	271	8.4%	274	5.2
Gender						
Female	13	54.2%	1191	36.6%	1204	22.9
Male	11	45.8%	2029	62.3%	2041	38.8
Unknown	0	0.0%	34	1.0%	32	0.6
Age						
0-4	0	0.0%	3	0.1%	3	0.1
5-9	0	0.0 %	0	0.0%	0	0.0
10-19	2	8.3%	40	1.2%	42	0.8
20-29	8	37.5%	423	13.0%	431	8.2
30-39	5	20.8%	470	14.4%	475	9.0
40-49	4	16.7%	610	18.8%	614	11.7
50-59	3	12.5%	1118	34.4%	1122	21.3
60+	1	4.2%	588	18.1%	589	11.2
Unknown	0	0.0%	1	0.03%	1	0.02
Race/Ethnicity						
Hispanic	5	20.8%	250	7.7%	255	4.8
White non-Hispanic	18	75.0%	749	23.0%	767	14.6
Black non-Hispanic	0	0.0%	115	3.5%	115	2.2
American Indian	0	0.0%	19	0.6%	19	0.4
Asian/Pacific Islander	0	0.0%	15	0.5%	15	0.3
Multiple	0	0.0%	5	0.2%	5	0.1
Other/Missing/Unknown	1	4.2%	2101	64.6%	2101	

†Past or present cases may include 5-10% of acute cases reported for the same year and cases who have resolved the infection.

‡ Rates per 100,000 were calculated using the U.S. Census Bureau, Population Division, *Annual Estimates of the Resident Population by Sex, Age, Race, and Hispanic Origin for the United States and States: April 1, 2010 to July 1, 2013*.

<http://www.census.gov/popest/data/index.html>. Rates calculated for counties with few cases and small populations should be interpreted with caution. This is not a rate of disease incidence.

Table 2: Reported Hepatitis C Cases by Risk Factor, and Percentage of Cases Reporting the Risk Factor, Colorado, 2013 †

	Acute HCV Cases		Past or Present HCV Cases		All HCV Cases
	Number	Percent of Total	Number	Percent of Total	Total
Total	23		3253		3276
IVDU					
Yes	12	52.2%	210	6.5%	222
No	7	30.4%	49	1.5%	56
Unknown	1	4.3%	43	1.3%	44
Missing	3	13.0%	2951	90.7%	2953
Household Contact					
Yes	1	4.3%	1	0.03%	1
No	0	0.0%	0	0.0%	0
Unknown	0	0.0%	0	0.0%	0
Missing	22	95.7%	3252	99.1%	3273
Sex Contact					
Yes	10	43.5%	22	0.7%	32
No	2	8.7%	0	0.0%	0
Unknown	0	0.0%	0	0.0%	0
Missing	11	47.8%	3231	99.3%	3241
MSM					
	11 male cases		2029 male cases		
Yes	0	0.0%	0	0.0%	0
No	10	91%	0	0.0%	10
Unknown	1	9.0%	48	2.3 %	48
Missing	0	0.0%	1981	97.6%	1982

†Risk factor categories are not mutually exclusive.

Table 3: Number and Percentage of Reported Acute and Chronic Hepatitis C Cases by County of Residence: Colorado, 2013

	Acute HCV Cases		Past or Present HCV Cases †		All HCV Cases	
	Number	Percent of Total	Number	Percent of Total	Total	Rate of Reported Cases/ 100,000 ‡
Total	23		3251		3275	62.2
County of Residence						
Adams	1	4.2%	178	5.50%	180	38.4
Alamosa	0	0.0%	19	0.58%	19	120.2
Arapahoe	1	8.3%	214	6.55%	215	35.4
Archuleta	0	0.0%	3	0.09%	3	24.7
Baca	0	0.0%	2	0.06%	2	54.5
Bent	0	0.0%	2	0.06%	2	35.2
Boulder	1	4.2%	92	2.83%	93	30.0
Broomfield	0	0.0%	18	0.55%	18	30.3
Chaffee	0	0.0%	2	0.06%	2	10.9
Cheyenne	0	0.0%	0	0.00%	0	0.0
Clear Creek	0	0.0%	6	0.18%	6	66.5
Conejos	1	4.2%	6	0.18%	7	85.1
Costilla	0	0.0%	4	0.12%	4	114.1
Crowley	0	0.0%	6	0.18%	6	114.8
Custer	0	0.0%	2	0.06%	2	46.6
Delta	0	0.0%	14	0.43%	14	46.2
Denver	4	16.7%	529	16.26%	533	82.1
Dolores	0	0.0%	3	0.09%	3	149.1
Douglas	0	0.0%	56	1.72%	56	18.3
Eagle	0	0.0%	13	0.40%	13	24.8
Elbert	0	0.0%	6	0.18%	6	25.3
El Paso	4	16.7%	269	8.27%	273	41.6
Fremont	0	0.0%	21	0.68%	22	47.6
Garfield	0	0.0%	31	0.95%	31	54.1
Gilpin	0	0.0%	3	0.09%	3	53.7
Grand	0	0.0%	1	0.03%	1	7.0
Gunnison	0	0.0%	3	0.09%	3	19.4
Hinsdale	0	0.0%	0	0.00%	0	0.0
Huerfano	0	0.0%	2	0.06%	2	30.9
Jackson	0	0.0%	0	0.00%	0	0.0
Jefferson	1	4.2%	185	5.69%	186	33.7
Kiowa	0	0.0%	1	0.03%	1	71.4

	Acute HCV Cases		Past or Present HCV Cases †		All HCV Cases	
	Number	Percent of Total	Number	Percent of Total	Total	Rate of Reported Cases/ 100,000 ‡
Kit Carson	0	0.0%	1	0.03%	1	12.4
Lake	0	0.0%	2	0.06%	2	27.4
La Plata	0	0.0%	33	1.01%	33	61.7
Larimer	3	12.5%	106	3.26%	109	34.5
Las Animas	0	0.0%	7	0.22%	7	48.7
Lincoln	0	0.0%	2	0.06%	2	36.9
Logan	0	0.0%	3	0.09%	3	13.7
Mesa	1	4.2%	96	2.95%	97	65.6
Mineral	0	0.0%	0	0.00%	0	0.0
Moffat	0	0.0%	8	0.25%	8	61.1
Montezuma	0	0.0%	15	0.46%	15	58.5
Montrose	0	0.0%	22	0.68%	22	54.0
Morgan	0	0.0%	6	0.18%	6	21.2
Otero	0	0.0%	12	0.37%	12	64.7
Ouray	0	0.0%	0	0.00%	0	0.0
Park	0	0.0%	5	0.15%	5	30.9
Phillips	0	0.0%	1	0.03%	1	23.0
Pitkin	0	0.0%	4	0.12%	4	23.0
Prowers	0	0.0%	6	0.18%	6	49.0
Pueblo	3	12.5%	130	4.00%	133	82.5
Rio Blanco	0	0.0%	2	0.06%	2	29.5
Rio Grande	0	0.0%	5	0.15%	5	42.6
Routt	0	0.0%	5	0.15%	5	21.4
Saguache	0	0.0%	3	0.09%	3	48.2
San Juan	0	0.0%	0	0.00%	0	0.0
San Miguel	0	0.0%	1	0.03%	1	13.1
Sedgwick	0	0.0%	1	0.03%	1	42.7
Summit	0	0.0%	7	0.22%	7	24.4
Teller	0	0.0%	19	0.58%	19	81.6
Washington	0	0.0%	3	0.09%	3	62.9
Weld	3	12.5%	96	3.01%	101	37.5
Yuma	0	0.0%	0	0.00%	0	0.0
Unspecified	0	0.0%	961	29.36%	956	—

Total Unspecified	Acute and Chronic HCV Cases	
	Number	%
CDOC	288	30.1%
FCI	18	1.3%
Other	655	68.5%

†Past or present chronic cases may include 5-10% of acute cases reported for the same year

‡ Rates per 100,000 were calculated using the U.S. Census Bureau, Population Division, *Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2013*, <http://www.census.gov/popest/data/index.html>. Rates calculated for counties with few cases and small populations should be interpreted with caution

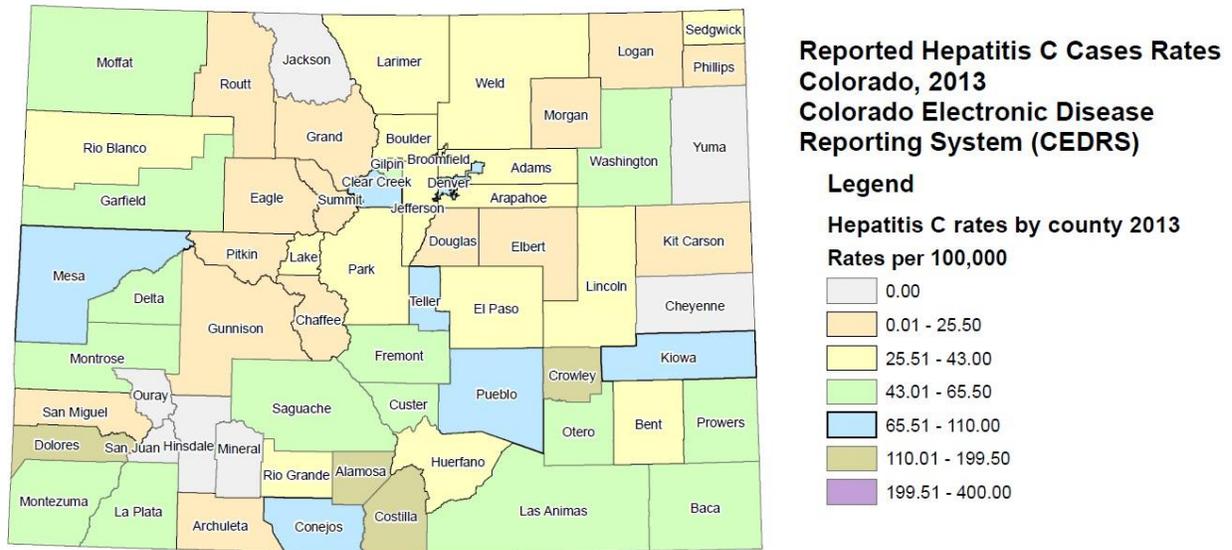


Figure 1. The map shows the rate distribution of hepatitis C per 100,000 county populations in Colorado. The rate is calculated using the 2013 estimated population figures from the U.S. Census Bureau, Population Division.ⁱ

Technical Notes Hepatitis C Surveillance

Epidemiology

Viral hepatitis surveillance in Colorado is primarily based on laboratory reporting of serologic results. Laboratory-based reporting enables the identification of symptomatic persons infected by the virus as well as those persons that were identified based on screening recommendations. 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, headache, malaise, nausea, vomiting, diarrhea, abdominal pain, and jaundice. Abnormal liver function tests are one of the most characteristic features. The Colorado Department of Public Health and Environment (CDPHE) uses case definitions published by the National Notifiable Diseases Surveillance System (NNDSS) to define an acute case. These can be found at <http://wwwn.cdc.gov/NNDSS/script/conditionssummary.aspx?CondID=83>

Past or Present 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. The surveillance case definition relates to past or present cases of hepatitis C rather than truly chronic infections. A present case can only be identified with additional viral load testing, and only 52.3% of cases included both an anti-HCV and an HCV RNA test. The case definition for hepatitis C past or present can be found at <http://wwwn.cdc.gov/NNDSS/script/conditionssummary.aspx?CondID=84>

The CDPHE Viral Hepatitis Program attempts to interview all acute cases. In 2013, it also attempted to follow-up on a subset of chronic cases by soliciting more risk and clinical information from healthcare providers. If a demographic or risk 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.”

Surveillance Summary

Gender

In 2013, a total of 23 acute cases of hepatitis C were reported in Colorado. The majority of the reported acute cases of hepatitis C were females (n=13; 54.2%); 11 male cases were reported (45.8%). For chronic HCV infections, 62.3% of the total 3277 reported cases were among men (n=2,029), as compared to 1,191 (36.6%) in women.

Age

Persons 20-29 years of age had the highest number of reported acute cases (n=8), followed closely by persons 30-39 years of age (n=5). For chronic infections, persons 50-59 years of age had the highest number of reported cases (n=1,118). 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.ⁱⁱ They also suggest that additional testing might need to be done among younger age groups with risk factors for hepatitis C.

Race/Ethnicity

Data on race and ethnicity was missing, unknown, or reported as other for most of the reported cases of chronic HCV (n=2,101; 64.1%). Among the reported cases that included race, White non-Hispanics had the highest number of chronic cases (n=749; 23% of cases) and acute cases (n=18; 75%). This information was missing for nearly all chronic cases

Risk Factors

Risk factor data include: injection drug use (IDU), household contact, sex contact, and healthcare exposures. These data were obtained through patient interviews, medical record reviews, or information provided by a physician, hospital, or other healthcare provider.

County Distribution

Acute hepatitis C was reported in 11 of the 64 Colorado counties. Chronic hepatitis C was reported in 57 of the 64 Colorado counties. The ten counties with the most number of reported cases (58.6% combined) were (Adams, Arapahoe, Boulder, Denver, El Paso, Jefferson, Larimer, Mesa, Pueblo, and Weld.) There were a significant number of chronic cases reported in rural and frontier counties.ⁱⁱⁱ In particular, the San Luis Valley, including Alamosa had higher rates of chronic HCV infections. Altogether, seven 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) of Federal Correctional Institute (FCI).

ⁱ US Census Bureau, Population Division. (June 2014). *Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2013*. Retrieved from <http://www.census.gov/popest/data/index.html>.

ⁱⁱCenters for Disease Control and Prevention. (17 August 2012). Recommendations for the Identification of Chronic Hepatitis C Virus Infection Among Persons Born During 1945–1965. *MMWR* 61(RR04), 1-18.

ⁱⁱⁱRural areas are sparsely populated and isolated from population centers and services.