

Hepatitis B in Colorado 2010 Surveillance Report

Cases of Acute and Chronic Hepatitis B 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 B cases newly reported to CDPHE in 2010



**Colorado Department
of Public Health
and Environment**

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Hepatitis B

Hepatitis B is a disease that results from infection with the blood borne hepatitis B virus (HBV). HBV can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness. Though the number of new infections is on the decline, data from the National Health and Nutrition Examination Survey indicate that the prevalence of HBV infection has remained steady at around 5 percent over the past two decades.¹ In Colorado, as many as 240,000 residents have ever been infected with hepatitis B. HBV 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 hepatitis B within 7 days, and it requires laboratories to report positive HBV serologic 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 a diagnosis and case status for each patient.

Acute Hepatitis B

Acute hepatitis B is a short-term illness that occurs within the first six months of infection with the hepatitis B virus. It is usually mildly to moderately symptomatic, with abdominal pain, jaundice and abnormal liver function tests being the most severe features. Older children and adults are more likely to develop symptoms than younger children.

Chronic Hepatitis B

Chronic hepatitis B results when the hepatitis B virus remains in the body after the acute phase of illness. Approximately 5 percent of older children and adults, 25 to 50 percent of younger children, and up to 90 percent of infants will fail to develop protective antibodies from their hepatitis B infection and will develop chronic hepatitis B. Over time, chronic hepatitis B can produce liver disease, cirrhosis, or cancer. Each year approximately 2,000 to 4,000 people die from diseases related to hepatitis B in the U.S.

Surveillance Summary

Men had the highest number of reported cases of acute and chronic hepatitis B infection. Thirty-two (60.00%) acute infections were reported in men and 21 (40.00%) reported cases were in women. For chronic infection, 298 (53.70%) of the cases were found in men and 256 (46.10%) in women despite the increased amount of testing among women seeking prenatal care.

Table 1 represents the age distribution of acute and chronic hepatitis B cases. For acute cases, persons 30-59 years of age had the highest number of reported cases (40 cases or 75.47%). Person >25 years of age are less likely to be immunized for hepatitis B based on a school-entry requirement that began in 1997. These findings suggest that individuals in these age groups continue to engage in high risk behavior and could benefit from vaccine. For chronic hepatitis B infection persons 20-39 years of age, 287 (51.71%) had the most cases reported. Chronic infections are more likely to be diagnosed among women seeking prenatal care or later in the course of infection when symptoms become more common.

White non-Hispanic people had the majority of cases reported for acute with 25 (47.10%). The category of Asian/Pacific Islanders had the majority of cases reported for chronic with 208 (37.40%). Data in Colorado's Perinatal Hepatitis B Unit indicates that foreign-born pregnant women are significantly more likely to be reported with hepatitis B infection than pregnant women born in the U.S.

Risk factor data was added to the 2010 statistics. Those listed with no, yes, and unknown data represent the responses that were obtained during interview, record review, or from a physician, hospital, or other healthcare provider. The VHP collected risk factor information on 71.60% of HBV acute cases and 44.60% of HBV chronic cases.

There were a total to 2 hepatitis B perinatal cases reported in Colorado this year. Hepatitis B perinatal cases are those who are <2 years of age and were born in the US to HBV infected mothers.

There were 53 acute HBV cases reported in 16 of the 64 Colorado counties. Reported chronic cases resided in 30 of the 64 Colorado counties. Those counties without reported cases were more likely to be frontier counties (rural areas sparsely populated that are isolated from population centers and services). Incarcerated HBV chronic cases are counted in the “Unspecified” section under Colorado Department of Corrections (CDOC).

Figure 1 map shows the rate distribution of hepatitis B per 100,000 county populations in Colorado. The rate is calculated using the 2010 Census figures from the Colorado Division of Local Government, Demography section.²

¹ [McQuillan GM, Kruszon-Moran D, Denniston MM, and Hirsch R. Viral Hepatitis. NCHS Data Brief No 27. Hyattsville, MD: National Center for Health Statistics. 2010.](#)

² <http://dola.colorado.gov/dlg/demog/2010censusdata.html>

Table 1

**Reported Hepatitis B Cases, Colorado, 2010
Colorado Electronic Disease Reporting System (CEDRS)**

Category	Acute HBV Cases		Chronic HBV Cases		Total Number	Rate* Rate Per 100,000
	Number	Percent	Number	Percent		
Total	53	100.00%	555	100.00%	608	12.1
Case Status						
Confirmed	46	86.80%	153	27.50%	199	4.0
Probable	7	13.20%	401	72.30%	408	8.0
Suspect	0	0.00%	1	0.20%	1	0.02
Sex						
Male	32	60.00%	298	53.70%	330	12.9
Female	21	40.00%	256	46.10%	277	11.0
Unknown	0	0.00%	1	0.20%	1	2.0
Age						
0 - 4	1	1.90%	11	2.00%	12	3.4
5 - 9	0	0.00%	2	0.40%	2	0.6
10 - 19	2	3.80%	27	4.90%	29	4.2
20 - 29	4	7.50%	145	26.10%	149	20.7
30 - 39	11	20.80%	142	25.50%	153	21.3
40 - 49	16	30.20%	77	13.80%	93	12.4
50 - 59	13	24.50%	93	16.90%	106	15.2
60+	6	11.30%	58	10.40%	64	8.2
Unknown	0	0.00%	0	0.00%	0	0.0
Race/Ethnicity						
Hispanic	9	17.00%	21	3.80%	30	2.9
White non-Hispanic	25	47.10%	81	14.60%	106	3.0
Black non-Hispanic	9	17.00%	94	16.90%	103	54.5
American Indian	2	3.80%	1	0.20%	3	9.7
Asian/Pacific Islander	1	1.90%	208	37.40%	209	148.2
Other/Multiple/Unknown	7	13.20%	150	27.10%	157	146.3
Perinatal HBV Cases						
2 cases Reported						
Male/Asian/9 months	1	50.00%	0	0.00%	1	
Male/Unknown/9 months	1	50.00%	0	0.00%	1	

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Category	Acute HBV Cases		Chronic HBV Cases		Total Number
	Number	Percent	Number	Percent	
Risk Factors**					
IVDU					
No	27	51.0%	108	19.50%	135
Yes	10	18.8%	15	2.70%	25
Missing	15	28.3%	307	55.30%	322
Unknown	1	1.90%	125	22.50%	126
Household Contact					
No	0	0.00%	0	0.00%	0
Yes	1	1.90%	19	3.40%	20
Missing	52	98.10%	536	96.60%	588
Unknown	0	0.00%	0	0.00%	0
Sex Contact					
No	0	0.00%	0	0.00%	0
Yes	3	5.70%	7	1.30%	10
Missing	50	94.30%	548	98.70%	598
Unknown	0	0.00%	0	0.00%	0
MSM					
No	11	34.30%	11	3.70%	22
Yes	6	18.90%	8	2.70%	14
Missing	3	9.30%	193	64.80%	196
Unknown	12	37.5%	86	28.80%	98
Endemic					
No	0	0.00%	0	0.00%	0
Yes	0	0.00%	202	36.40%	202
Missing	0	0.00%	0	0.00%	0
Unknown	0	0.00%	0	0.00%	0
Perinatal					
No	0	0.00%	0	0.00%	0
Yes	0	0.00%	6	1.10%	6
Missing	0	0.00%	0	0.00%	0
Unknown	0	0.00%	0	0.00%	0

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Category	Acute HBV Cases		Chronic HBV Cases		Total Number	Rate* Rate Per 100,000
	Number	Percent	Number	Percent		
County of Residence						
Adams	5	9.40%	63	11.30%	68	15.4
Alamosa	0	0.00%	0	0.00%	0	0.0
Arapahoe	6	11.30%	84	15.10%	90	15.7
Archuleta	0	0.00%	0	0.00%	0	0.0
Baca	0	0.00%	0	0.00%	0	0.0
Bent	0	0.00%	0	0.00%	0	0.0
Boulder	2	3.80%	22	3.90%	24	8.1
Broomfield	0	0.00%	8	1.40%	8	14.3
Chaffee	0	0.00%	0	0.00%	0	0.0
Cheyenne	0	0.00%	0	0.00%	0	0.0
Clear Creek	0	0.00%	0	0.00%	0	0.0
Conejos	0	0.00%	0	0.00%	0	0.0
Costilla	0	0.00%	0	0.00%	0	0.0
Crowley	0	0.00%	0	0.00%	0	0.0
Custer	0	0.00%	0	0.00%	0	0.0
Delta	0	0.00%	0	0.00%	0	0.0
Denver	12	22.60%	135	24.20%	147	24.5
Dolores	1	1.90%	0	0.00%	1	50.0
Douglas	1	1.90%	31	5.50%	32	11.2
Eagle	1	1.90%	1	0.20%	2	3.8
El Paso	5	9.40%	64	11.60%	69	10.9
Elbert	0	0.00%	1	0.20%	1	4.3
Fremont	0	0.00%	2	0.40%	2	4.3
Garfield	1	1.90%	1	0.20%	2	3.6
Gilpin	1	1.90%	2	0.40%	3	60.0
Grand	0	0.00%	0	0.00%	0	0.0
Gunnison	0	0.00%	0	0.00%	0	0.0
Hinsdale	0	0.00%	0	0.00%	0	0.0
Huerfano	0	0.00%	0	0.00%	0	0.0
Jackson	0	0.00%	0	0.00%	0	0.0
Jefferson	6	11.30%	36	6.40%	42	7.9
Kiowa	0	0.00%	0	0.00%	0	0.0
Kit Carson	0	0.00%	0	0.00%	0	0.0
La Plata	1	1.90%	2	0.40%	3	5.9
Lake	0	0.00%	0	0.00%	0	0.0
Larimer	2	3.80%	14	2.50%	16	5.3
Las Animas	0	0.00%	1	0.20%	1	6.3

Table 1

**Reported Hepatitis B Cases, Colorado, 2010
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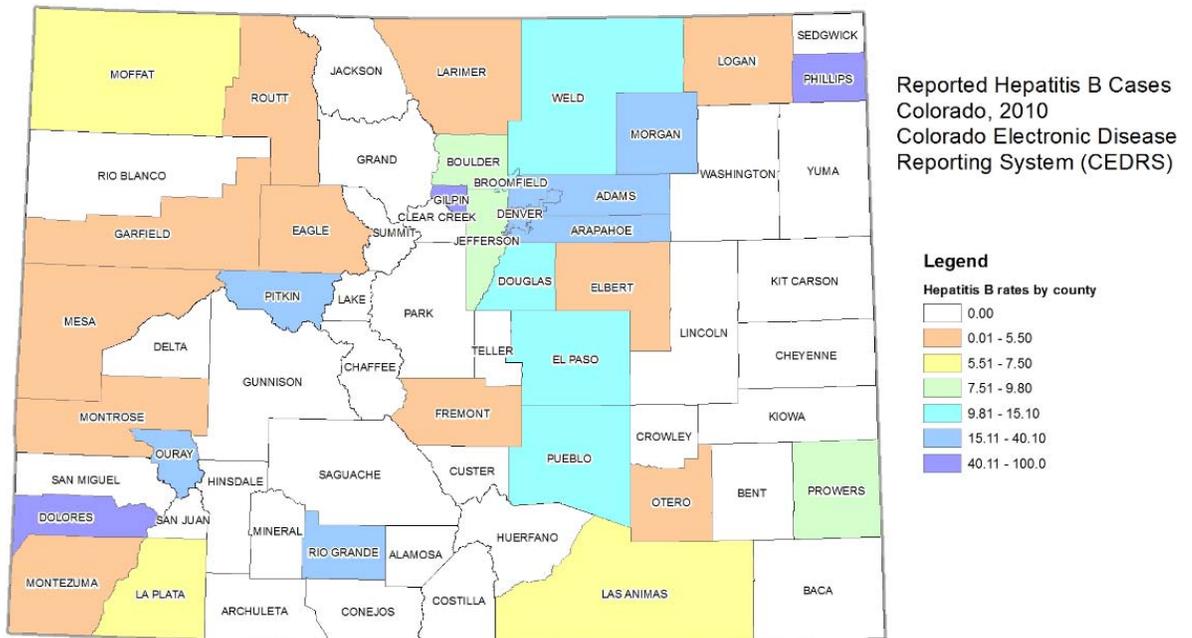
Category	Acute HBV Cases		Chronic HBV Cases		Total Number	Rate* Rate Per 100,000
	Number	Percent	Number	Percent		
Lincoln	0	0.00%	0	0.00%	0	0.0
Logan	0	0.00%	1	0.20%	1	4.3
Mesa	0	0.00%	5	0.90%	5	3.4
Mineral	0	0.00%	0	0.00%	0	0.0
Moffat	0	0.00%	1	0.20%	1	7.1
Montezuma	0	0.00%	1	0.20%	1	3.8
Montrose	0	0.00%	1	0.20%	1	2.4
Morgan	0	0.00%	5	0.90%	5	17.9
Otero	0	0.00%	1	0.20%	1	5.3
Ouray	0	0.00%	1	0.20%	1	25.0
Park	0	0.00%	0	0.00%	0	0.0
Phillips	0	0.00%	2	0.40%	2	50.0
Pitkin	0	0.00%	3	0.50%	3	17.6
Prowers	0	0.00%	1	0.20%	1	7.7
Pueblo	7	13.20%	10	1.80%	17	10.7
Rio Blanco	0	0.00%	0	0.00%	0	0.0
Rio Grande	0	0.00%	2	0.40%	2	16.7
Routt	1	1.90%	0	0.00%	1	4.2
Saguache	0	0.00%	0	0.00%	0	0.0
San Juan	0	0.00%	0	0.00%	0	0.0
San Miguel	0	0.00%	0	0.00%	0	0.0
Sedgwick	0	0.00%	0	0.00%	0	0.0
Summit	0	0.00%	0	0.00%	0	0.0
Teller	0	0.00%	0	0.00%	0	0.0
Washington	0	0.00%	0	0.00%	0	0.0
Weld	1	1.90%	27	4.90%	28	11.1
Yuma	0	0.00%	0	0.00%	0	0.0
Unspecified***	0	0.00%	27	4.90%	27	0.5
		Total Unspecified				
	CDOC	0	0.00%	19	70.40%	19
	FCI	0	0.00%	0	0.00%	0
	Unknown	0	0.00%	8	29.60%	8

*Rates were calculated using the 2010-Census from the Demography Section, Colorado Division of Local Government: <http://dola.colorado.gov/dlg/demog/2010censusdata.html>. Rates calculated for counties with a small number of reported cases should be interpreted with caution.

**Risk factor data is not mutually exclusive.

***Unspecified – Cases reported as unspecified include federal and state inmates housed in a facility located in Colorado and cases for which no residential address could be obtained.

Figure 1



Rates were calculated per 100,000 population using 2010 population figures from the 2010-Census provided by the Colorado Division of Local Government, Demography Section. Rates calculated for counties with a small number of reported cases should be interpreted with caution.

