

HEPATITIS C IN COLORADO

A Summary of Cases Reported through 2004



Colorado Department of Public Health and Environment

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Viral Hepatitis Program
Disease Control and Environmental Epidemiology Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530

(303) 692-2780
http://www.cdphe.state.co.us/dc/Hepatitis/hep_home

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Hepatitis C

Hepatitis C is the most common chronic blood borne infection in the United States. Data from the National Health and Nutrition Examination Survey conducted from 1999-2002 indicate that between 3.4 and 4.9 million people in the United States have ever been infected with the hepatitis C virus (HCV) (1). In Colorado, it is estimated more than 83,000 residents have ever been infected with hepatitis C. Approximately 75% of these individuals are chronically infected and many may not be aware of their infection because they are not clinically ill (2). First identified in 1988, HCV is the causative agent for what was formerly known as non-A non-B hepatitis. The Food and Drug Administration first licensed a serological test to detect antibodies to HCV in 1990 (3).

Acute Hepatitis C Infection:

Acute hepatitis C is the first stage of hepatitis C infection. Individuals with acute hepatitis either have mild symptoms or no noticeable symptoms at all. Elevations in serum ALT (Alanine aminotransferase) are the most characteristic feature during this stage. Fifteen to twenty-five percent of individuals appear to resolve hepatitis C infection, after the acute stage.

In Colorado, all identified acute hepatitis C cases are investigated to identify risk factors and other characteristics of infection. Identification of these acute hepatitis C infections is challenging because no serological markers exist for acute infections and acute infections are difficult to differentiate from an exacerbation of a chronic infection on clinical features of the disease. In spite of these barriers, acute case identification provides the best method to monitor changes in transmission risks and disease incidence. Information from acute case reports also provides an opportunity to better target prevention activities (2).

Chronic Hepatitis C Infection:

A large percentage of persons infected with hepatitis C, 75-85%, develop chronic infection. Patients with chronic hepatitis C need long-term medical follow up to monitor the consequences of their chronic infection. The majority of patients with chronic hepatitis C tolerate their disease well and do not show symptoms or physical signs of the infection during the first twenty years. In most patients, chronic liver disease progresses at a slow rate. It is estimated that 10 to 20% of patients develop cirrhosis over a 20 to 30 year period, and 1-5% develop hepatocellular carcinoma (HCC) (4). Chronic liver disease is the 10th leading cause of death in the United States with 40 to 60% of chronic liver disease due to HCV. Infection with HCV is also the leading indication for liver transplants both in Colorado and nationally (5).

Increased alcohol intake, being male, and being more than 40 years of age at infection have been shown to be associated with more severe liver disease (6). To protect their liver from further harm persons with chronic HCV infections are advised to 1) not drink alcohol; 2) not start any new medicines, including over-the-counter and herbal medicines, without checking with their doctor; and 3) get vaccinated against hepatitis A virus (HAV) and hepatitis B virus (HBV) if not already immune (2,7).

Hepatitis C/HIV Coinfection:

Due to similarities in the modes of transmission for HIV and HCV these infections often occur together. It is estimated that 25% of HIV infected individuals are co-infected with HCV (8). The rate of HIV/HCV coinfection may be significantly higher among certain high-risk groups. Coinfected patients may have an accelerated course of disease and management of each infection can differ in dually infected persons. Therefore, it is recommended that all HIV-infected person should be tested for HCV and, if positive, be considered for treatment (7,9).

Hepatitis C Transmission:

The hepatitis C virus (HCV) is transmitted primarily through large or repeated percutaneous (through the skin) exposures to infected blood. Individuals are at risk of infection if they:

- Have ever injected drugs with others including sharing cottons, cookers, works or the drug itself.
- Have ever been on hemodialysis.
- Have received a blood transfusion or solid organ transplant before July 1992.
- Have received clotting factor before 1987.
- Have had a needle stick or blood splash to the eyes.
- Were born to an infected mother.

Hepatitis C Prevention in Colorado:

There is currently no effective vaccine against HCV infection, nor is there an effective post-exposure prophylaxis to prevent hepatitis C infection following an exposure. Therefore, HCV prevention activities focus on two areas: 1) reducing the risk for contracting new HCV infections; and 2) reducing the risk of liver disease and other chronic diseases in HCV infected individuals.

The Colorado Department of Public Health and Environment (CDPHE) began hepatitis C activities in 1999 following the passage of HB 99-1118 (the Hepatitis C Prevention Act), which authorized implementation of a public health program to address hepatitis C infection. The passage of that bill and the award of state General Fund dollars brought about a contract with Hep C Connection and “Team Hep C”, a consortium of hepatitis C service providers, to carry out some of the activities mandated by the statute. These activities include public information, education, support and referral. This collaboration also supported the creation of a resource directory for hepatitis C in Colorado (<http://www.hepc-connection.org/directory/ResourceDirectory.pdf>) and a help line (1-800-522-HEPC).

CDPHE has established contracts with various agencies throughout the state to conduct screening for hepatitis C virus among high-risk individuals. Individuals who receive testing at these sites also receive education and counseling regarding HCV. In 2004 over 900 high-risk individuals were able to obtain HCV screening free of charge through these contracted sites.

Hepatitis C Reporting Requirements:

In 1992, the Colorado Board of Health adopted rules requiring laboratories to report positive serum antibody titer or more specific tests to the state or local health department within seven days following the diagnosis. These rules are available online at

www.cdphe.state.co.us/op/regs/diseasecontrol/100901epidemiccommunicablediseasecontrol.pdf

In addition, physicians and hospitals are required to report cases of acute hepatitis C cases to the state or local health department within seven days following the diagnosis. The data that follows is based on laboratory and case reports to CDPHE. Laboratory and physician reports should include:

- The disease being reported.
- Patient’s name.
- Date of birth.
- Demographics including sex, race, and ethnicity.
- Address (including city, county, and phone number).
- Physician’s name, address and telephone number.

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10. HEPATITIS C: COLORADO REPORTED CASES

Table1: Cases By Report Date, Colorado Electronic Disease Reporting System (CEDRS)
January 1, 2004 through December 31, 2004

Category	Total Acute HCV Cases		Total Chronic HCV Cases		TOTAL
	Number	(Percent)	Number	(Percent)	
Total	19	100	4,820	100	4,839
Sex	19	100%	4,820	100%	4,839
Male	9	47.37%	3,137	65.08%	3,146
Female	10	52.63%	1,683	34.92%	1,693
Unknown	0	0.00%	0	0.00%	0
Age at Diagnosis	19	100%	4,820	100%	4,839
<1	1	5.26%	5	0.10%	6
1-4	0	0.00%	7	0.15%	7
5-9	0	0.00%	1	0.02%	1
10-14	0	0.00%	3	0.06%	3
15-19	1	5.26%	39	0.81%	40
20-39	8	42.11%	1,340	27.80%	1,348
40-59	9	47.37%	3,054	63.36%	3,063
60-79	0	0.00%	313	6.49%	313
80+	0	0.00%	44	0.91%	44
Unknown	0	0.00%	14	0.30%	14
County of Residence at Diagnosis	19	100%	4,820	100%	4,839
Adams	1	5.26%	340	7.05%	341
Alamosa	0	0.00%	14	0.29%	14
Arapahoe	3	15.78%	427	8.86%	430
Archuleta	0	0.00%	7	0.15%	7
Baca	0	0.00%	3	0.06%	3
Bent	0	0.00%	19	0.39%	19
Boulder	0	0.00%	156	3.24%	156
Broomfield	0	0.00%	29	0.60%	29
Chaffee	0	0.00%	14	0.29%	14
Cheyenne	0	0.00%	0	0.00%	0
Clear Creek	0	0.00%	9	0.19%	9
Conejos	0	0.00%	4	0.08%	4
Costilla	0	0.00%	8	0.17%	8
Crowley	0	0.00%	31	0.64%	31
Custer	0	0.00%	5	0.10%	5
Delta	0	0.00%	30	0.62%	30
Denver	6	31.58%	1381	28.65%	1387
Dolores	0	0.00%	2	0.04%	2
Douglas	0	0.00%	73	1.51%	73
Eagle	0	0.00%	24	0.50%	24
El Paso	2	10.53%	473	9.81%	475
Elbert	0	0.00%	15	0.31%	15
Fremont	2	10.53%	121	2.51%	123
Garfield	0	0.00%	51	1.06%	51
Gilpin	0	0.00%	7	0.15%	7
Grand	0	0.00%	11	0.23%	11

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**Table1: Cases By Report Date, Colorado Electronic Disease Reporting System (CEDRS)
January 1, 2004 through December 31, 2004**

Category	Total Acute HCV Cases		Total Chronic HCV Cases		TOTAL
	Number	(Percent)	Number	(Percent)	
<u>County of Residence at Diagnosis</u>					
Gunnison	0	0.00%	8	0.17%	8
Hinsdale	0	0.00%	0	0.00%	0
Huerfano	0	0.00%	18	0.37%	18
Jackson	0	0.00%	0	0.00%	0
Jefferson	5	26.32%	401	8.32%	406
Kiowa	0	0.00%	0	0.00%	0
Kit Carson	0	0.00%	6	0.12%	6
La Plata	0	0.00%	26	0.54%	26
Lake	0	0.00%	7	0.15%	7
Larimer	0	0.00%	173	3.59%	173
Las Animas	0	0.00%	26	0.54%	26
Lincoln	0	0.00%	16	0.33%	16
Logan	0	0.00%	36	0.75%	36
Mesa	0	0.00%	153	3.17%	153
Moffat	0	0.00%	8	0.17%	8
Montezuma	0	0.00%	15	0.31%	15
Montrose	0	0.00%	34	0.71%	34
Morgan	0	0.00%	15	0.31%	15
Otero	0	0.00%	14	0.29%	14
Ouray	0	0.00%	7	0.15%	7
Park	0	0.00%	16	0.33%	16
Phillips	0	0.00%	0	0.00%	0
Pitkin	0	0.00%	9	0.19%	9
Prowers	0	0.00%	17	0.35%	17
Pueblo	0	0.00%	261	5.41%	261
Rio Blanco	0	0.00%	7	0.15%	7
Rio Grande	0	0.00%	11	0.23%	11
Routt	0	0.00%	18	0.37%	18
Saguache	0	0.00%	2	0.04%	2
San Juan	0	0.00%	2	0.04%	2
San Miguel	0	0.00%	13	0.27%	13
Sedgwick	0	0.00%	1	0.02%	1
Summit	0	0.00%	15	0.31%	15
Teller	0	0.00%	37	0.78%	37
Unknown	0	0.00%	47	0.98%	47
Washington	0	0.00%	2	0.04%	2
Weld	0	0.00%	140	2.90%	140
Yuma	0	0.00%	5	0.10%	5
Total	19	100%	4,820	100%	4,839

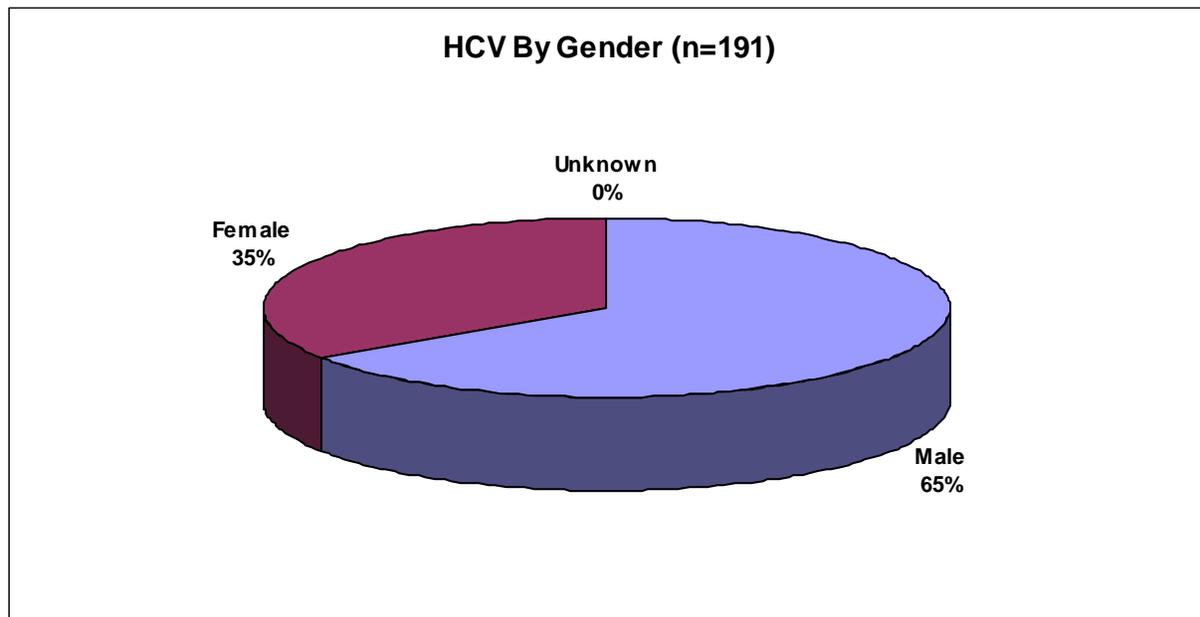
HEPATITIS C: COLORADO REPORTED CASES
Table 2: Cases From the HIV/HCV Counseling and Testing Sites
January 1, 2004 through December 31, 2004

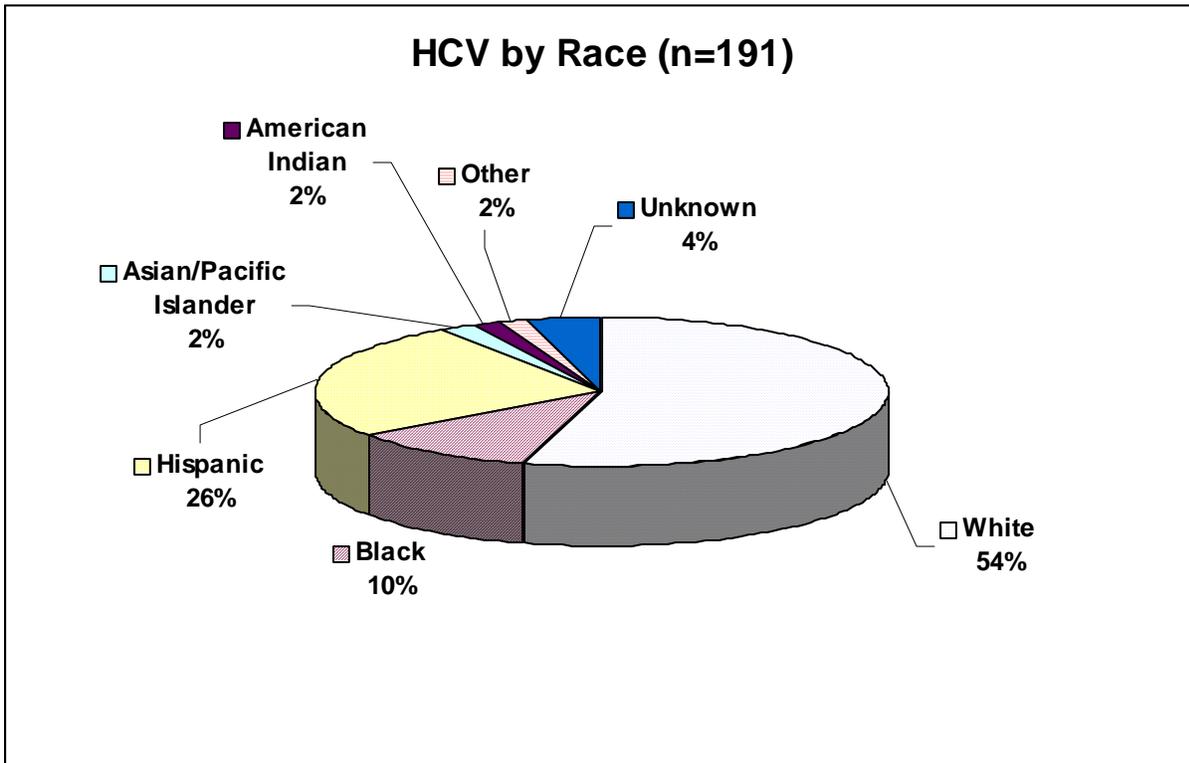
Category	Total Tested		Total HCV Antibody Positive	
	Number	(Percent)	Number	(Percent)
<u>Sex</u>	<u>933*</u>	<u>100%</u>	<u>191</u>	<u>100%</u>
Male	612	65.59%	125	65.45%
Female	321	34.41%	66	34.55%
Unknown	0	0.0%	0	0.0%
<u>Race/Ethnicity</u>	<u>933</u>	<u>100%</u>	<u>191</u>	<u>100%</u>
White	571	61.20%	104	54.45%
Black	107	11.47%	20	10.47%
Hispanic	179	19.19%	49	25.65%
Asian/Pacific Islander	11	1.17%	4	2.09%
American Indian	12	1.29%	3	1.57%
Other	16	1.71%	3	1.57%
Unknown	37	3.97%	8	4.20%
<u>Age at Diagnosis</u>	<u>933</u>	<u>100%</u>	<u>191</u>	<u>100%</u>
0-4	0	0.00%	0	0.0%
5-9	0	0.00%	0	0.0%
10-14	6	0.64%	0	0.0%
15-19	91	9.75%	1	0.52%
20-24	183	19.61%	19	9.95%
25-29	158	16.93%	19	9.95%
30-34	130	13.93%	24	12.57%
35-39	110	11.80%	23	12.04%
40-44	115	12.33%	45	23.56%
45-54	115	12.33%	54	28.27%
55 & Over	19	2.04%	5	2.62%
Unknown	6	0.64%	1	0.52%
<u>Exposure Category</u>	<u>933</u>	<u>100%</u>	<u>191</u>	<u>100%</u>
Injecting Drug User	367	39.34%	150	78.53%
Sex W/Injecting Drug User	80	8.57%	1	0.52%
MSM and Injecting Drug User	81	8.68%	24	12.57%
1-3 Different Sex Partners	132	14.15%	2	1.05%
4-6 Sex Partners	32	3.43%	3	1.58%
7-9 Sex Partners	2	0.21%	0	0.00%
10-19 Sex Partners	9	0.96%	0	0.00%
20+ Sex Partners	2	0.21%	1	0.52%
Occupational Exposure	1	0.11%	0	0.0%
Receiving Blood Transfusion/Products	2	0.21%	0	0.0%
Perinatal Transmission	0	0.0%	0	0.0%
Suspected Perinatal Transmission	14	1.50%	1	0.52%
History of STDs**	106	11.36%	4	2.09%
Receiving Money/Drugs For Sex	5	0.54%	1	0.52%
Sex W/Person Paid Money/Drugs For Sex	0	0.0%	0	0.00%
Other Non-HCV Related Risk				
Sexual Abuse/Assault	4	0.43%	0	0.00%

Category	Total Tested		Total HCV Antibody Positive	
	Number	(Percent)	Number	(Percent)
MSM and Sex W/Person W/HIV/AIDS	15	1.61%	0	0.00%
Remaining MSM	36	3.86%	0	0.00%
Sex W/Person W/HIV/AIDS	12	1.29%	1	0.52%
Women Who have Sex W/MSM	5	0.54%	0	0.00%
No Risk Info Available	28	3.00%	3	1.58%
<u>Geographical Distribution</u>	<u>933</u>	<u>100%</u>	<u>191</u>	<u>100%</u>
Denver Metro	841	90.14%	181	94.76%
Northeast	6	0.64%	1	0.52%
Northwest	17	1.82%	2	1.05%
South Central	13	1.39%	1	0.52%
Southeast	9	0.96%	3	1.58%
Southwest	10	1.07%	0	0.00%
West Central	29	3.11%	2	1.05%
Unknown	8	0.87%	1	0.52%

* Lower HCV testing numbers due to a decrease in HIV/HCV testing contracts.

** Syphilis, Gonorrhea, Chlamydia, Herpes, and hep B.





COLORADO HIV/AIDS CO-INFECTED WITH HEPATITIS C
Table 3: Comparison of the HIV/AIDS Database to CEDRS for Cases Diagnosed from 1993 - December 31, 2004

Category	Total HIV/AIDS (since 93)*		Total HIV/AIDS with HCV**	
	Number	(Percent)	Number	(Percent)
<u>Sex</u>	<u>7431</u>	<u>100%</u>	<u>874</u>	<u>100%</u>
Male	6575	88.48%	744	85.13%
Female	856	11.52%	130	14.87%
<u>Age at Diagnosis</u>	<u>7431</u>	<u>100%</u>	<u>874</u>	<u>100%</u>
Under 5	19	0.26%	0	0.0%
5-12	7	0.09%	0	0.0%
13-19	87	1.17%	4	0.46%
20-29	1523	20.50%	105	12.01%
30-39	3294	44.32%	407	46.57%
40-49	1836	24.71%	283	32.38%
Over 49	664	8.94%	75	8.58%
Unknown	1	0.01%	0	0.0%
<u>Race/Ethnicity</u>	<u>7431</u>	<u>100%</u>	<u>874</u>	<u>100%</u>
White	4756	64.00%	478	54.69%
Black	1091	14.68%	161	18.42%

Hispanic	1442	19.41%	207	23.68%
Asian/Pacific Islander	49	0.66%	7	0.80%
American Indian	67	0.90%	15	1.72%
Multiple Race	26	0.35%	6	0.69%
<u>Exposure Category</u>	<u>7431</u>	<u>100%</u>	<u>874</u>	<u>100%</u>
MSM	4619	62.17%	235	26.89%
Injecting Drug Use	791	10.64%	335	38.33%
MSM/IDU	669	9.00%	223	25.51%
Hemophilia	18	0.24%	6	0.69%
Hetero ct	686	9.23%	40	4.58%
Transfusion	20	0.27%	1	0.11%
NIR	599	8.06%	34	3.89%
Perinatal	29	0.39%	0	0.00%
Total	7431		874	

* HIV cases with diagnosis dates prior to 1993 were included when a co-infection of HCV was present in or after 1993.

** An additional 541 out-of-state AIDS cases were co-infected with hepatitis C.