

2010 Profile of HIV/AIDS in Michigan

Hepatitis C

Data from Michigan Disease Surveillance System (MDSS)

Overview

Hepatitis C is a disease of the liver caused by infection with the hepatitis C virus, in which the acute (or newly acquired) infection can progress to a chronic, long-term infection. Hepatitis C is the most common bloodborne infection in the United States and is the leading indicator for liver transplantation. Fifteen to 25 percent of those acutely infected will resolve the infection on their own. However, the majority of infected people, 75 to 85 percent, will develop chronic infection. Disease progression in those chronically infected is variable but can advance from fibrosis, to cirrhosis, to end-stage liver disease and death. Ten to 20 percent of those chronically infected will develop cirrhosis within 20 to 30 years after infection. An estimated 60 to 70 percent of hepatitis C-infected individuals are unaware of their infection.

Since 1992, the primary mode of transmission for the hepatitis C virus is through the sharing of needles, syringes, and other drug paraphernalia. An estimated 60 to 90 percent of injection drugs users are infected with the virus. Other routes of hepatitis C transmission include sexual contact, from mother to child during the birth process, and via occupational exposure to blood. In addition, the virus was transmitted through blood transfusions prior to 1992 and during receipt of blood products developed before 1987. No vaccine against hepatitis C infection exists.

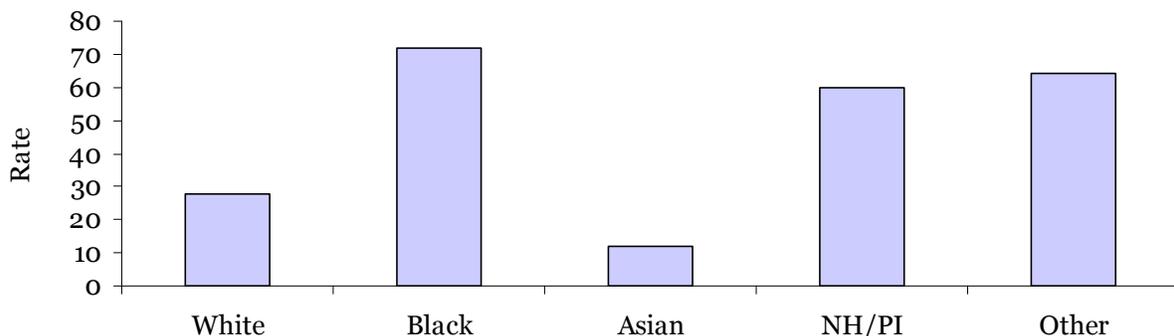
Acute Hepatitis C

In 2009, 34 cases of acute hepatitis C were reported statewide in Michigan (Table 14, page 3-95). Forty-seven percent of acute cases were among males, while 53 percent were among females. Ethnicity is not consistently collected for hepatitis C cases, therefore we cannot provide a measure of infection among Hispanic or non-Hispanic persons. Additionally, the race/ethnicity of the client was unknown in 18 percent of reported acute cases. Due to extremely small numbers, rates are unavailable for cases of acute hepatitis C in 2009.

Chronic Hepatitis C

In 2009, 6,747 cases of chronic hepatitis C were reported statewide in Michigan (Table 14, page 3-95), a rate of 67 cases of chronic hepatitis C per 100,000 Michigan residents. Sixty-six percent of chronic cases were among males, while 34 percent were among females. The rate of chronic hepatitis C in Michigan was 60 per 100,000 in American Indian/Alaska Native persons, 72 per 100,000 in black per-

Figure 22: Rate of Chronic Hepatitis C in Michigan Residents, by Race 2009



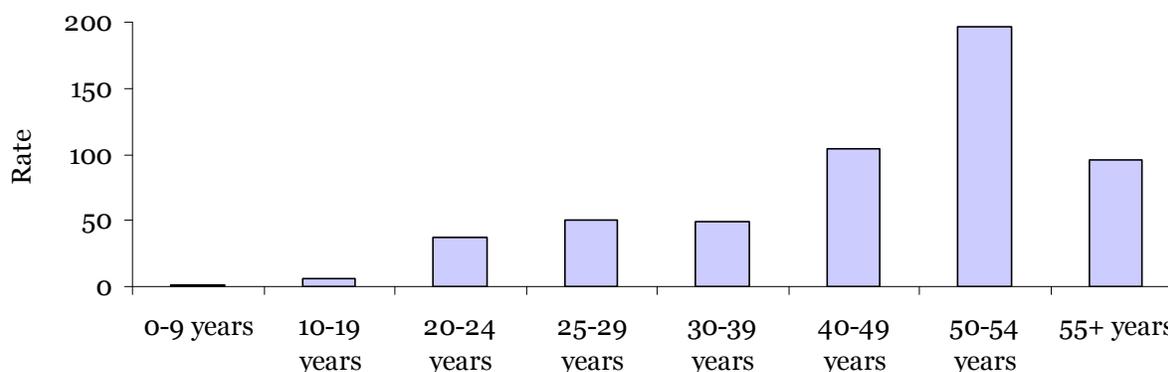
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sons and 28 per 100,000 in white persons (Figure 22). However, these rates must be viewed with caution as the race/ethnicity of the client was unknown in almost half (48 percent) of reported chronic cases. The highest rate of chronic hepatitis C was found in the 50-54 year age group (Figure 23).

Please note that chronic hepatitis C data must be interpreted with caution. Chronic hepatitis C data do not represent the incidence or prevalence of chronic hepatitis C in Michigan; rather the data represent an aggregate of newly diagnosed cases reported to local health departments by laboratories and health-care providers. Although these cases were newly diagnosed in 2009, the patient may have been chronically infected with hepatitis C for years, but remained undiagnosed until 2009.

Figure 23: Rate of Chronic Hepatitis C in Michigan Residents, by Age, 2009



Limitations of the data

Since acute and chronic hepatitis C infections are often asymptomatic and can remain undetected and unreported for years, we often rely on estimates of hepatitis C infection rather than reported cases. Using data from the National Health and Nutrition Examination Survey (NHANES) gathered between 1999 and 2002, the Centers for Disease Control and Prevention (CDC) estimates that 1.6 percent of the population has ever been exposed to hepatitis C and 1.3 percent of the population has developed a chronic hepatitis C infection. However, NHANES does not include homeless, incarcerated, institutionalized, hospitalized or military populations and therefore under-estimates the percentage of the population who have ever been infected with hepatitis C or are chronically infected with hepatitis C, since these excluded populations are often at high risk for hepatitis C infection. While not perfect, we use these NHANES estimates to determine how many cases of chronic hepatitis C we may have in Michigan. According to these estimates, approximately 131,000 Michigan residents have been chronically infected with hepatitis C. See Table 15, page 3-96 for county estimates of how many Michigan residents have been infected with hepatitis C.

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Hepatitis & HIV Co-Infection:

Data for this analysis were provided by a supplemental surveillance project, Adult and Adolescent Spectrum of Disease (ASD). ASD collected data from the medical records of HIV patients at two major medical centers in Detroit, between 1990 and 2004, from the time the persons first contacted either site, until they died or were lost to follow-up.

Hepatitis C (HCV) was the most common hepatitis co-infection among HIV-infected persons. Of the 1,790 persons in care and in ASD in 2001-2003, 353 (20 percent) had a diagnosis of HCV at some time during ASD follow-up, while 207 (12 percent) had a diagnosis of hepatitis B (HBV), and 64 (4 percent) of hepatitis A (HAV). The true rates of co-infection with HBV, and particularly with HCV, may be higher than these estimates because HBV and HCV infections are frequently asymptomatic, and only a portion of the persons in ASD were tested for HBV and HCV.

Table 16 (page 3-97) shows the demographic and HIV transmission risk profiles for all the persons in ASD co-infected with HAV, HBV and HCV. Of persons co-infected with HCV, higher proportions were female and black, compared to the proportions among all persons in ASD, and a higher proportion were over 40 years of age. The predominance of blood transfer as the transmission mode for HCV was reflected in the higher proportions of HCV-co-infected persons who had a history of drug injection or other blood contact recorded as their HIV transmission risk. In contrast, the demographic and HIV transmission risk profiles of persons co-infected with HAV (predominantly oral-fecal transmission) did not differ significantly from the profiles of all the persons in ASD. Among persons co-infected with HBV, the only significant differences were that higher proportions were male and had MSM or drug injection recorded as their HIV transmission risk, reflecting the transmission modes for HBV (sexual contact and blood transfer).

The proportions of persons in ASD who were vaccinated against HAV and HBV were lower among persons co-infected with the respective viruses. These differences were expected because of the lack of need for immunization as a result of the long-term immunity (HAV and HBV) and chronic infection (HBV) that are associated with these viruses.

Table 13: County Estimates* for Hepatitis C, Michigan 2007

	<i>Ever infected with HCV</i> <i>(estimated 1.6% of population)</i>	<i>Chronically infected with HCV</i> <i>(estimated 1.3% of population)</i>	<i>Census 2006 Estimate</i>
Allegan	1,816	1,476	113,501
Barry/Eaton	2,674	2,173	167,136
Bay	1,734	1,409	108,390
Benzie/Leelanau	636	517	39,764
Berrien	2,587	2,102	161,705
Br/Hills/St Joseph	2,494	2,026	155,858
Calhoun	2,208	1,794	137,991
Chippewa	619	503	38,674
Central MI Dist	3,053	2,480	190,805
Delta/Menominee	1,006	817	62,852
Dickinson/Iron	637	518	39,824
District #2	1,110	902	69,395
District #4	1,312	1,066	81,971
District #10	4,257	3,459	266,085
Genesee	7,071	5,746	441,966
Grand Traverse	1,359	1,104	84,952
Huron	546	444	34,143
Ingham	4,430	3,600	276,898
Ionia	1,037	843	64,821
Jackson	2,622	2,130	163,851
Kalamazoo	3,852	3,129	240,720
Kent	9,592	7,794	599,524
Lapeer	1,500	1,219	93,761
Lenawee	1,635	1,328	102,191
Livingston	2,952	2,399	184,511
LMAS District	578	470	36,143
Macomb	13,326	10,827	832,861
Marquette	1,035	841	64,675
Midland	1,341	1,089	83,792
Monroe	2,481	2,015	155,035
Muskegon	2,804	2,278	175,231
Mid-MI District	2,816	2,288	175,993
NW Michigan	1,747	1,420	109,203
Oakland	19,428	15,785	1,214,255
Ottawa	4,123	3,350	257,671
Saginaw	3,301	2,682	206,300
Sanilac	711	578	44,448
Shiawassee	1,167	948	72,912
St Clair	2,748	2,232	171,725
Tuscola	926	752	57,878
Van Buren/Cass	2,086	1,695	130,347
Washtenaw	5,505	4,473	344,047
Wayne excl Detroit	17,612	14,310	1,100,732
City of Detroit	13,938	11,325	871,121
WestUpDist	1,120	910	69,985
Detroit Metro Area ^δ	71,032	57,713	4,439,490
Out-State	90,498	73,530	5,656,153
Total	161,530	131,243	10,095,643

*Estimates are based on NHANES, see page 3-36 for more detail.

^δDetroit Metro Area includes Lapeer, Monroe, Macomb, Oakland, St. Clair, and Wayne Counties

Table 14: Reported Cases of Acute and Chronic Hepatitis C by Sex, Race and Age Group, Michigan, 2007

	<i>Acute hepatitis C</i>			<i>Chronic hepatitis C</i>			<i>Census 2006 Estimate</i>
	Num	%	Rate	Num	%	Rate	
SEX							
Male	53	59%	1.1	3,550	63%	71.4	4,969,692
Female	37	41%	0.7	2,020	37%	39.4	5,125,951
RACE[§]							
White	50	56%	0.6	1,933	34%	23.6	8,198,927
Black	11	12%	0.8	819	14%	56.7	1,444,451
Asian	0	0%	0.0	29	1%	12.2	237,389
Native Hawaiian/ Pacific Islander	0	0%	0.0	3	0%	79.9	3,757
American Indian/ Alaska Native	1	1%	1.6	38	1%	62.5	60,820
Other	2	2%	1.3	121	2%	80.5	150,299
Unknown Race	26	29%	N/A	2,716	48%	N/A	N/A
AGE							
0-4 years	1	1%	0.2	11	0%	1.7	638,195
5-9 years	0	0%	0.0	5	0%	0.8	664,169
10-14 years	0	0%	0.0	1	0%	0.1	717,303
15-19 years	7	8%	0.9	54	1%	7.2	745,908
20-24 years	8	9%	1.2	135	2%	19.4	695,604
25-29 years	9	10%	1.4	206	4%	31.8	648,347
30-34 years	8	9%	1.3	150	3%	24.0	624,512
35-39 years	6	7%	0.9	284	5%	40.4	703,352
40-44 years	10	11%	1.3	547	10%	72.1	758,900
45-49 years	19	21%	1.2	1,014	18%	66.2	1,530,887
50-54 years	10	11%	1.6	1,532	27%	238.4	642,566
55-64 years	8	9%	1.7	1,316	23%	283.0	465,036
65 and over	4	4%	0.3	394	7%	31.2	1,260,864
Unknown Age	0	0%	N/A	11	0%	N/A	N/A
Total	90	100%	0.9	5,660	100%	56.1	10,095,643

[§]Hispanic ethnicity is not categorized due to incomplete data. Each racial category includes both Hispanic and non-Hispanic persons