Wisconsin Hepatitis C Virus (HCV) Surveillance Summary

Cases reported 1/1/2013 through 12/31/2013

WISCONSIN DEPARTMENT OF HEALTH SERVICES
Division of Public Health
P-00440 (7/1/2014)

Table 1. Hepatitis C virus (HCV) reports, 2013.

Case definition	Number	Rate per 100,000
Hepatitis C, Past or Present*	2596	45.4
Hepatitis C, Acute	42	0.7
Total	2638	46.2

*Includes 1943 confirmed and 653 probable.
All acute cases are classified as confirmed.

Table 2. History of HCV reports, 2004-2013.

Year	Past or Present	Acute	Total	Rate per 100,000
2004	3168	2	3170	57.2
2005	2769	2	2771	49.6
2006	2354	1	2355	42.0
2007	2379	0	2379	42.2
2008	2425	2	2427	42.8
2009	2445	3	2448	43.1
2010	2487	11	2498	43.9
2011	2605	15	2620	45.9*
2012	2608	26	2634	46.0*
2013	2596	42	2638	46.2*

*Rates in 2011, 2012 and 2013 are significantly higher than rates in the previous five years (2006-2010).

Table 3. Sex of HCV cases, 2013.

Sex	Number	%	Rate per 100,000
Female	1123	43	39.0
Male	1515	57	53.4

Case Definitions and Classification:

Hepatitis C, Past or Present, can be found at: National Notifiable Diseases Surveillance System, Hepatitis C, Past or Present

Hepatitis C, Acute, can be found at: National Notifiable Diseases Surveillance System, Hepatitis C, Acute

Summary for 2013: Hepatitis C is a liver disease caused by the hepatitis C virus (HCV). HCV is spread primarily by exposure to blood from an infected person. It is the most common blood borne infection in the United States and it is the number one reason for liver transplantation. Today, most people become infected with HCV by sharing needles or other equipment used to inject drugs. Although less common, it can also be spread sexually or from an infected mother to her infant.

Recent estimates of HCV infection in the United States indicate 2.3 million people are living with chronic HCV infection. Infection is most prevalent among those born between the years 1945 and 1965, the majority of whom were likely infected during the 1970s and 1980s when rates were highest.

The age distribution is changing and recent cases reported in Wisconsin are younger than in previous years. Historically a disease prominently of males, hepatitis C is now frequently reported in women as well. In 2013, reports of acute HCV infection increased by 62% from the previous year. Improvements in surveillance, test methodology (i.e., the availability of a rapid HCV antibody test in 2012) and electronic laboratory reporting are improving detection of HCV infection and the understanding of the epidemiology in Wisconsin.

For more information: Questions regarding Wisconsin hepatitis C virus data may be directed to Lauren Stockman, Hepatitis C Epidemiologist, lauren.stockman@wi.gov, 608-267-0359. Questions regarding the Wisconsin Viral Hepatitis Prevention Program may be directed to Sheila Guilfoyle, Viral Hepatitis Program Coordinator, sheila.guilfoyle@wi.gov, 608-266-5819.

Table 4. Age at report of HCV positive test, 2013.*

Age group (Years)	Number	%
0-9	2	0
10-19	81	3
20-29	627	24
30-39	430	16
40-49	411	16
50-59	681	26
60-69	328	12
70-79	56	2
80+	22	1
Total	2638	100

*Age-specific rates per 100,000 population are shown on page 4.

Table 5. Race and ethnicity of HCV cases, 2013.*

Race/Ethnicity	Number	%
White, non-Hispanic	1787	68
Black or African American, non-Hispanic	321	12
Hispanic or Latino	140	5
American Indian or Alaska Native	77	3
Asian	28	1
Other	7	0
Multiple Races	13	1
Unknown	265	10
Total	2638	100

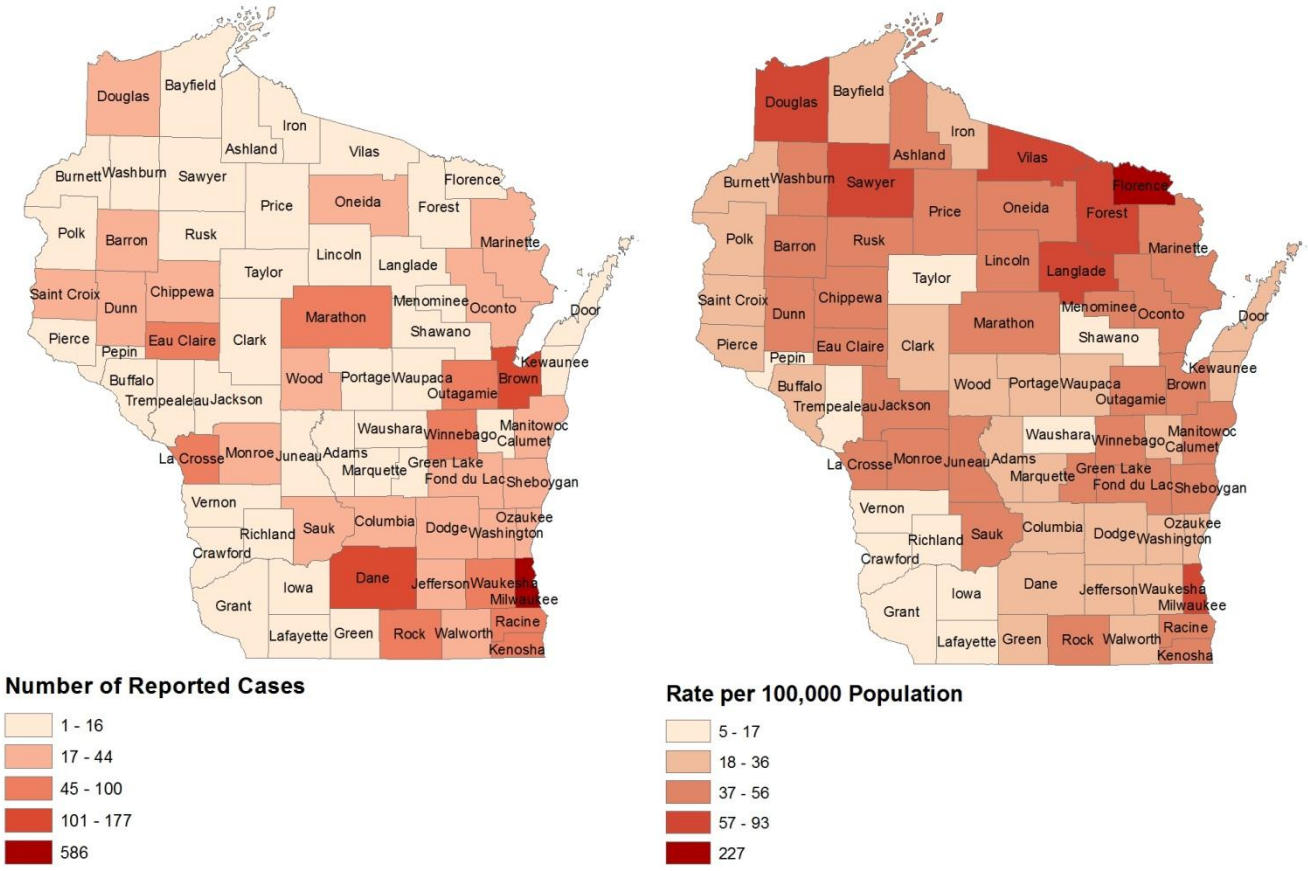
*Rates per 100,000 population are shown in Figure 4.

Table 6. HCV reports, by county, 2013.

County of Residence	Number	%	County of Residence	Number	%
Adams	6	0	Marquette	4	0
Ashland	8	0	Menominee	2	0
Barron	20	1	Milwaukee	586	22
Bayfield	3	0	Monroe	21	1
Brown	124	5	Oconto	17	1
Buffalo	3	0	Oneida	20	1
Burnett	5	0	Outagamie	67	3
Calumet	13	0	Ozaukee	18	1
Chippewa	32	1	Pepin	1	0
Clark	9	0	Pierce	8	0
Columbia	20	1	Polk	12	0
Crawford	2	0	Portage	15	1
Dane	177	7	Price	7	0
Dodge	21	1	Racine	100	4
Door	7	0	Richland	1	0
Douglas	41	2	Rock	88	3
Dunn	18	1	Rusk	7	0
Eau Claire	52	2	Sauk	26	1
Florence	10	0	Sawyer	12	0
Fond du Lac	43	2	Shawano	6	0
Forest	7	0	Sheboygan	44	2
Grant	5	0	St. Croix	18	1
Green Lake	8	0	Taylor	1	0
Green	9	0	Trempealeau	5	0
Iowa	2	0	Vernon	5	0
Iron	2	0	Vilas	16	1
Jackson	8	0	Walworth	25	1
Jefferson	23	1	Washburn	7	0
Juneau	14	1	Washington	25	1
Kenosha	81	3	Waukesha	90	3
Kewaunee	5	0	Waupaca	15	1
La Crosse	53	2	Waushara	3	0
Lafayette	1	0	Winnebago	77	3
Langlade	13	0	Wood	26	1
Lincoln	14	1	Unknown	30	1
Manitowoc	36	1	Correctional system[¶]	257	10
Marathon	60	2			
Marinette	21	1	**Total**	2638	100

[¶]Includes cases reported from the Department of Corrections statewide, and the Federal Correctional Institution in Adams County, WI.

Figure 1. Map of HCV reports in 2013, by county.



The estimated county population in 2012 from the Wisconsin Interactive Statistics on Health was used to calculate rates. Cases reported from the Department of Corrections or the Federal Correctional Institution are not shown. County case numbers and rates may be influenced by differences in the amount of resources dedicated to HCV surveillance.

In 2013, new HCV cases were reported in all 72 counties. Milwaukee County accounted for 22%, Dane County for 7%, and Brown and Racine Counties each for 4% of HCV reports in 2013. Cases reported from the correctional system accounted for 10% of cases in 2013. The rate of reported HCV in Wisconsin was 46.2 per 100,000.

Figure 2. Trend in percent of HCV reports, by age, 2004 - 2013.

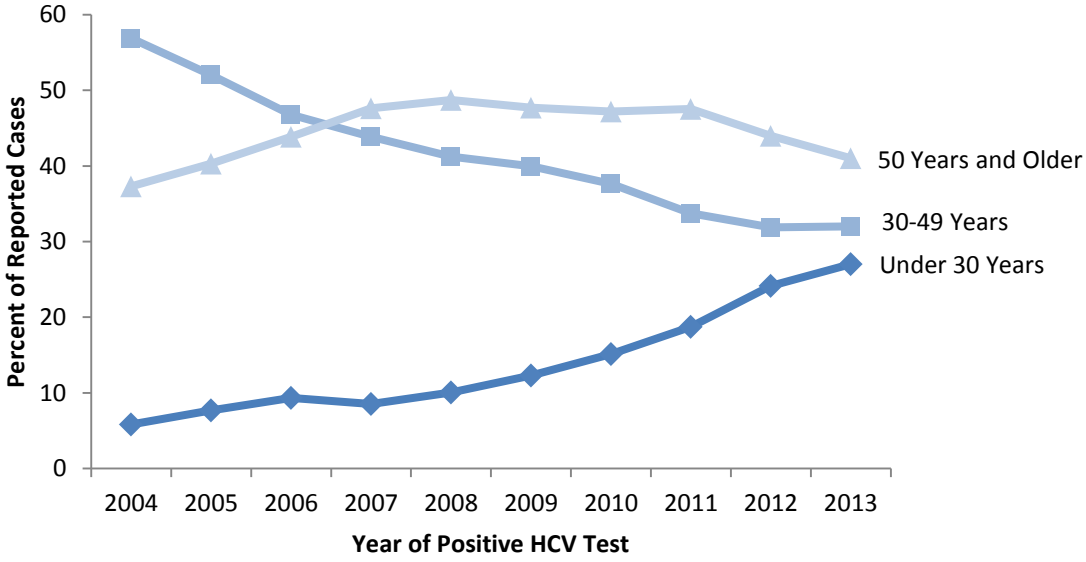
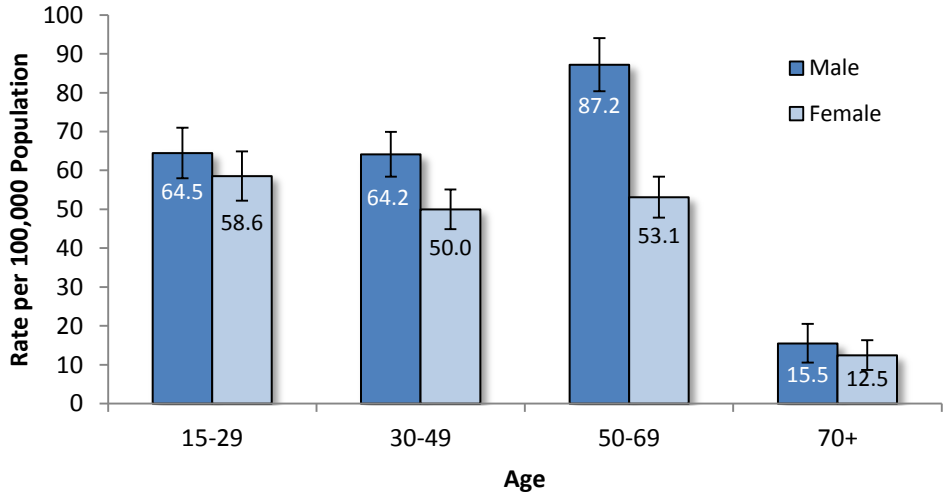


Figure 2 shows trend in age. In 2013, cases aged 50 and older continued to comprise the largest group (41%) of reports, followed by those aged 30-40 (32%) and those younger than 30 (27%). HCV was reported at a rate of 61.6 per 100,000 people aged 15-29, 57.2 per 100,000 people aged 30-49, 70.0 per 100,000 people aged 50-69 and 13.7 per 100,000 people aged older than 70.

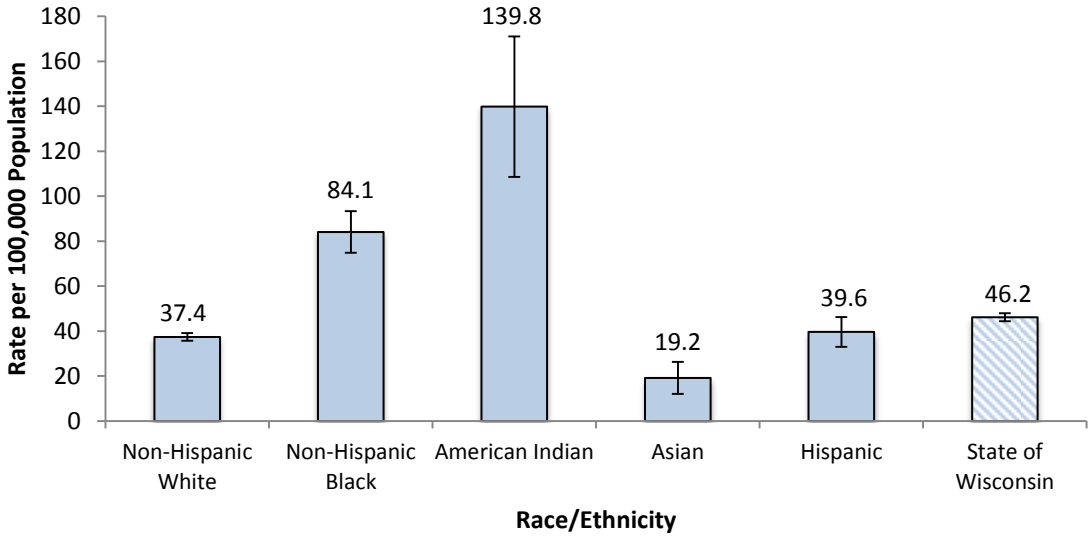
Figure 3. Rate of HCV reports, by sex and age, 2013.



Error bars show 95% confidence intervals for the rate. If error bars overlap, categories are not significantly different from each other. Age represents age at date of positive HCV test.

Figure 3 shows the population-based rate of HCV reports in males and females, by different age groups. In 2013, young adult (under 30 years old) males and females were reported at a similar rate. However, men aged 50-69 were reported at a rate 1.6 times higher than that of women of the same age group.

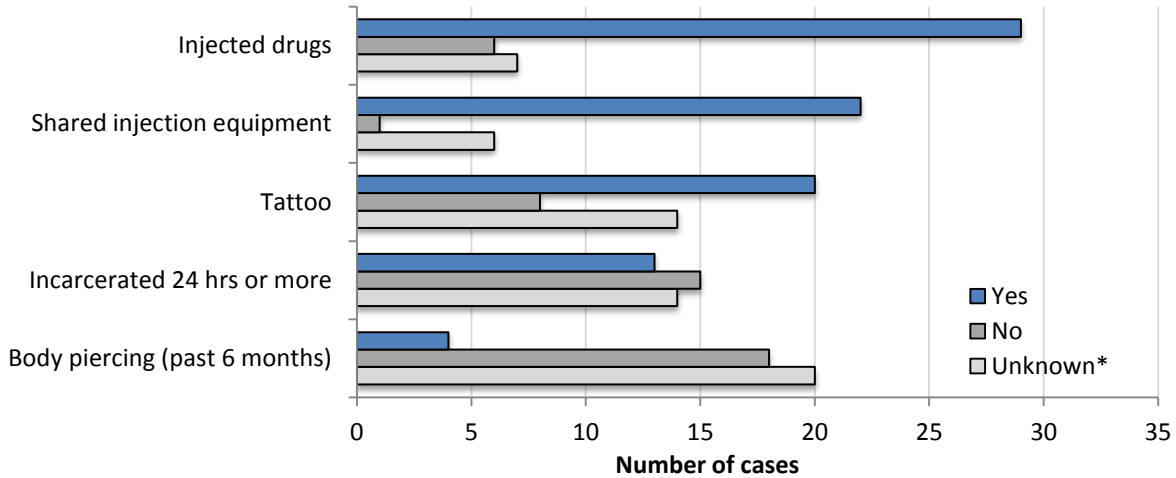
Figure 4. Rate of HCV reports, by race and ethnicity, 2013.



Numbers shown above each bar are the rate, per 100,000 population. The error bars show 95% confidence intervals for the rate. If error bars overlap, categories are not significantly different from each other. Rates were not calculated for multiple race (n=13) or other race (n=6) due to small sample size. Race was unknown in 265 reports (10%).

Figure 4 shows rates of HCV vary by race and ethnicity. In 2013, the reported rate of HCV in non-Hispanic Blacks was more than two times higher than non-Hispanic Whites. The rate in American Indians was more than three times higher than that of non-Hispanic Whites. The rates for non-Hispanic Blacks and American Indians were both higher than the average rate of HCV reported in Wisconsin.

Figure 5. Acute hepatitis C reports, by risk behavior, 2013.



A total of 42 reports of acute hepatitis C were received in 2013. More than one risk behavior may be indicated on each case report.
*Risk data were not reported.

In 2013, 42 cases of acute HCV were reported. The primary risk factor for acute HCV infection was injection drug use, reported by 29 (69%) of persons with acute HCV. Among those who reported sharing equipment, more than half (59%) reported sharing within 6 months prior to their HCV test. Syringes and cookers were the most common reported items shared. Of 21 men, 1 reported sexual activity with a male.

Figure 6. Prevalent HCV cases (reported) and all-cause mortality, Wisconsin, 2000-2011.

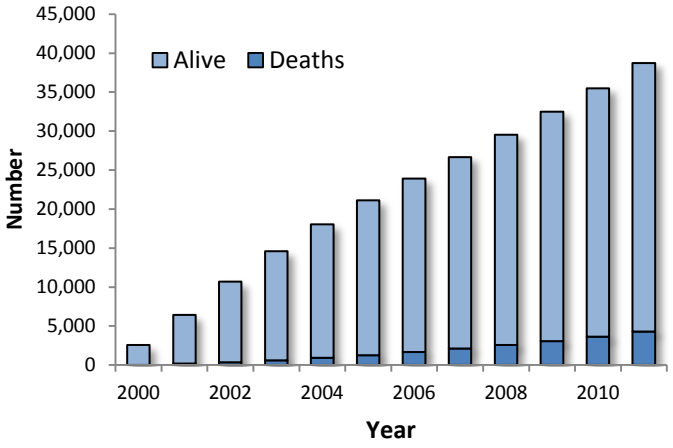
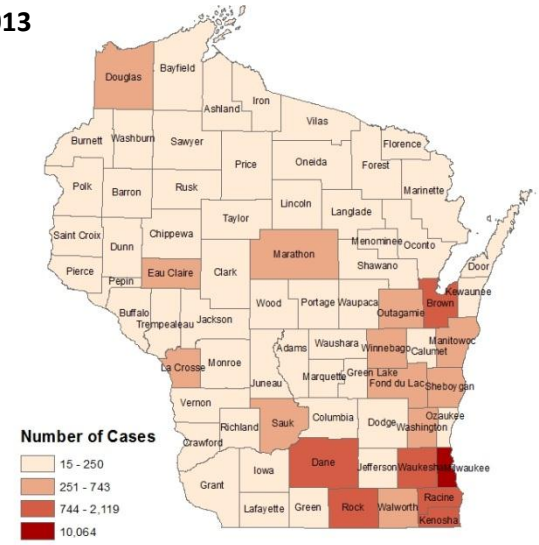


Figure 7. Map of prevalent HCV cases (reported) presumed to be alive, by county, as of December 31, 2013



Since 2000, approximately 35,000 HCV infections have been reported to DPH in individuals presumed to be alive as of 2011 (see Technical notes for details). The CDC estimates that 45-85% of HCV infected persons have not been tested or identified; therefore, the true number of those with HCV in Wisconsin is unknown. As of 2010, 1.3% of the United States population is estimated to have evidence of HCV infection (Ditah, 2014) which translates to approximately 74,000 in Wisconsin.

References:
Ditah I, et al. The changing epidemiology of hepatitis C virus infection in the United States: National health and nutrition examination survey 2001 through 2010. J Hepatol (2014), in press.

Technical notes:
a. This report is compiled by the Wisconsin Adult Viral Hepatitis Program and is based on reports of hepatitis C virus (HCV) infection submitted by laboratories and local health departments (LHDs). HCV infection is a reportable communicable disease by Wisconsin administrative rule (DHS 145). When cases are reported, LHDs contact persons with HCV infection to provide health education, risk reduction counseling, hepatitis A and B vaccine and medical referral as needed.
b. Many cases of HCV infection are reported by laboratories. Since laboratories do not generally report demographic data such as region, race, or age, surveillance summary data by demographic characteristics are often incomplete.
c. Most reported cases of HCV infection represent chronic disease in persons who were infected years ago. Persons with acute infection are often unaware of their infection because it presents with few if any symptoms.
d. This report is based on HCV surveillance data from the Wisconsin Electronic Disease Surveillance System (WEDSS) as of 3/31/2014. HCV case numbers used in other reports or individual county reports may vary depending on the date data is accessed, as WEDSS is not a static database and cases can be updated daily.
e. Rates are expressed as the number per 100,000 population in Wisconsin in 2012. Rates are described as significantly different if calculated 95% confidence intervals around the rates do not overlap.
f. Reports of HCV in persons deceased as of 2011 were identified by a match of WEDSS to the Wisconsin Vital Records registry of deaths of WI residents through 2011. The number of people with HCV who have moved out of Wisconsin or have a resolved or cured infection is unknown and has ***not*** been subtracted from all reported cases.

Additional resources: Wisconsin Department of Health Services:
http://www.dhs.wisconsin.gov/communicable/ViralHepatitis/HepCInfection.htm
Centers for Disease Control and Prevention: http://www.cdc.gov/hepatitis/HCV/index.htm
National Notifiable Diseases Surveillance System: http://wwwn.cdc.gov/NNDSS/script/casedefDefault.aspx