

# **South Carolina Viral Hepatitis Prevention Plan**

**2009**

**This first edition of the plan was released on July 31, 2009.**

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## Executive Summary

The word “hepatitis” means inflammation of the liver. Toxins, certain drugs, some diseases, heavy alcohol use, bacterial infections, and viral infections can cause hepatitis. Viral hepatitis is most often caused by one of the following viruses: hepatitis A virus (HAV), hepatitis B virus (HBV), or hepatitis C virus (HCV). All three of these unrelated viruses can produce an acute illness characterized by nausea, malaise, abdominal pain, and jaundice. HBV and HCV also can produce chronic infection that is associated with an increased risk for chronic liver disease and hepatocellular carcinoma. Chronic infection with HBV and HCV represent a substantial public health problem in the United States and in South Carolina.

Hepatitis B and hepatitis C viruses are the most prevalent reportable communicable diseases (except for certain STDs) in South Carolina. Viral hepatitis surveillance and prevention activities, however, are not supported by state funds.

South Carolina Department of Health and Environmental Control (DHEC) is the official state public health agency and is committed to improving the delivery of viral hepatitis prevention services in public health clinics that serve adults at risk for viral hepatitis. The DHEC Bureau of Disease Control, which includes the Divisions of Acute Disease Epidemiology (DADE), Immunization, and STD/HIV, works in collaboration with the DHEC Bureau of Laboratories, private labs, HIV prevention contractors, Department of Corrections, SC Primary Health Care Association, Ryan White providers and other providers in the prevention and surveillance of viral hepatitis.

In 2004, DHEC began using NEDSS (National Electronic Disease Surveillance System) for disease surveillance and reporting. This surveillance system has resulted in increased viral hepatitis case finding. Despite these efforts, public health experts acknowledge that many South Carolinians remain undiagnosed and are at risk for serious consequences of chronic hepatitis B and C infection. These undiagnosed persons have not received counseling, treatment, or prevention messages. Also many persons at risk for infection have not received vaccinations to prevent HAV and HBV.

### Reported Cases of Viral Hepatitis in S.C. (2000-2008)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Hepatitis A, Acute	97	86	64	54	50	50	27	13	19
Hepatitis B, Acute	23	72	139	196	169	191	111	65	65
Hepatitis B, Chronic	341	675	999	612	866	664	680	544	552
Hepatitis B, perinatal	0	0	0	0	1	0	0	0	0
Hepatitis C, Acute	3	13	5	28	17	4	1	1	4
Hepatitis C, Chronic	3,001	4,018	3,235	1,015	3,275	4678	4912	3752	3663
Hepatitis D	0	0	0	0	0	1	0	0	0
Hepatitis E	1	0	0	0	1	1	0	1	0

DHEC has had policies and standing orders in place for many years supporting viral hepatitis prevention efforts. In 1998, the hepatitis B vaccination requirement for 7<sup>th</sup> grade children was added. This requirement included all grades (kindergarten through grade 12) by school year 2003-2004. In addition DHEC clinics provide HCV testing and hepatitis vaccination for high-risk adults.

The South Carolina viral hepatitis strategic planning process began in April 2009 with stakeholders from the following agencies:

- S.C. Department of Health and Environmental Control (DHEC)
- S.C. Department of Alcohol and Other Drug Abuse Services (DAODAS)
- S.C. Primary Health Care Association (SCPHCA)
- S.C. Hepatitis C Coalition
- DHEC's HIV prevention contractors
- Faces and Voices of Recovery S.C (FAVOR)

These stakeholders met a total of three times during 2009 to draft the first viral hepatitis strategic plan for South Carolina. This plan was developed based on guidance from the National Viral Hepatitis Technical Assistance Center at New York State Department of Health.

After conducting a brief survey of health departments and community partners, the committee determined that viral hepatitis services should be considered essential public health services and that prevention services should be integrated into existing programs serving at-risk populations. The committee also identified a need for increased coordination, planning and evaluation of viral hepatitis program activities statewide.

This plan is designed to serve as a resource tool for service providers needing guidance and information on viral hepatitis. The plan can be used to enhance collaboration between strategic partners that provide services to populations at risk for or infected with viral hepatitis. The committee intends to further expand and refine the plan in 2010.

## **Mission, Vision, Guiding Principles**

### **MISSION**

Our mission is to promote and protect the health of South Carolina residents by decreasing transmission of hepatitis A, B, and C and by limiting the complications of hepatitis-related liver disease.

### **VISION**

We envision a coordinated public and private effort to prevent the transmission of viral hepatitis and limit the complications for those who are chronically infected by promoting access to medical care.

### **GUIDING PRINCIPLES**

- Prevention is the most effective public health strategy.
- Hepatitis prevention and treatment is a shared responsibility among the public and private sectors and the general public.
- Cultural competence is valued by recognizing, respecting, understanding, and valuing different cultures while providing services to the general public.
- Hepatitis infections have social and economic impact on families, communities, and the health care system.
- Services that prevent hepatitis and the complications of hepatitis are integrated into the existing prevention and care infrastructure for STD/HIV, Family Planning, school health, correctional health, alcohol and drug abuse services, occupational health, and private sector pediatric and adult health care services.
- Collaboration is valued in making decisions and reaching common goals.

## Overview of Viral Hepatitis

### Hepatitis A

Hepatitis A is an acute infection caused by the hepatitis A virus (HAV). HAV infection occurs through person-to-person contact with an infected person or by eating or drinking food or water contaminated with fecal matter. It can range in severity from a mild illness lasting a few weeks to a severe illness lasting several months. During the last 20 years, the number of cases of hepatitis A has steadily declined throughout the United States. New cases in the United States are now estimated to be around 25,000 each year. Experts believe this decline is a result of the vaccination of children and people at risk for hepatitis A. Effective vaccines to prevent HAV infection have been available in the United States since 1995.

Reported cases of acute HAV in South Carolina have declined during recent years. 50 cases per year were reported in SC during 2004 and 2005. Reported cases declined to an average of 20 cases per year during 2006, 2007, & 2008. Childhood rates of acute HAV remain low, while adult males aged 20-39 have the highest rates of acute HAV with 35 reported cases in this age group between 2003 and 2008.

### Hepatitis B

Hepatitis B is a contagious liver disease caused by the hepatitis B virus (HBV). HBV infection is spread by direct or indirect contact with infected blood or body fluids. It can range in severity from a mild illness lasting a few weeks to a severe, lifelong illness.

Acute HBV infection is a short-term illness that occurs within the first 6 months after someone is exposed to the hepatitis B virus. Acute infection can, but does not always, lead to chronic infection. New infections have decreased dramatically in the US since the mid-1980s when effective hepatitis B vaccination became widely available. The number of people who have chronic HBV infection remains high, however, because of the long duration of infection and the influx of immigrants who have chronic infection.

Chronic hepatitis B virus infection is a lifelong illness that occurs when the hepatitis B virus remains in a person's body. Chronic HBV can lead to cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. It is estimated that more than 1 million U.S. residents have chronic HBV infection, resulting in an estimated 2,000 to 4,000 deaths each year.

Reported cases of acute HBV have also declined in South Carolina. 169 and 191 cases were reported respectively during 2004 and 2005, but reported cases declined to an average of 80 per year during 2006, 2007, & 2008.

During the past 5 years (2004-2008), DHEC received an average of 661 reports of chronic HBV per year. Counties with the highest reported rates of chronic HBV were Richland and Charleston.

Infants born to mothers who are infected with hepatitis B virus are at high risk of HBV transmission and chronic HBV infection. Transmission of HBV from mother to baby can be prevented by identifying HBV-infected pregnant women and providing hepatitis B immune globulin and hepatitis B vaccine to their infants within 12 hours of birth. National guidelines call for universal screening of all pregnant women and case management of infants at risk of perinatal transmission of HBV. DHEC provides case management to all infants identified to be at risk of perinatal transmission.

### **Hepatitis C**

Hepatitis C is a liver disease caused by the hepatitis C virus (HCV). HCV is the most common bloodborne infection in the United States. Hepatitis C virus is an acute or chronic infection and can occur when blood from an infected person enters the body of a person who is not infected.

Chronic HCV infection develops in a majority of HCV-infected persons, most of whom are unaware of their infection. Persons who are newly infected frequently have no symptoms. An estimated 3.2 million persons nationwide are chronically infected with HCV. Most Americans who are HCV-infected were born between 1945 and 1964. Experts predict a rise in future HCV-related morbidity and mortality as HCV-infected persons reach an age when complications of liver disease start to develop. The consequences of chronic liver disease from HCV often do not become apparent until 10 to 20 years after infection.

HCV is most prevalent among injection drug users. Other risk factors include patients on long-term hemodialysis, persons who received a blood transfusion or organ donation prior to 1992 and persons who received clotting factors before 1987.

The CDC estimates that approximately 17,000 new cases of HCV infections occurred in the US in 2007. No vaccine against HCV infection exists.

Based on national estimates, approximately 58,000 to 85,000 persons in South Carolina have been infected with HCV. From 2000 to 2005, nearly 20,000 persons were reported to DHEC with chronic hepatitis C. The SC reported HCV case rate in 2008 was 82 per 100,000 population.

### **HIV/HCV Coinfection**

HCV infection progresses more rapidly to liver damage in persons who are also infected with human immunodeficiency virus (HIV). The prevalence of HCV may be as high as 30 percent among people living with HIV/AIDS (PLWHA) and as high as 90 percent among PLWHA who contracted HIV infection through injection drug use (IDU). End-stage liver disease associated with HCV is a major cause of death among PLWHA. All PLWHA should be screened for HCV infection.

See Appendices A and B for additional information.

## Resource Inventory

As part of the Viral Hepatitis strategic planning process for South Carolina, the STD/HIV Division disseminated a Resource Inventory Survey via email. Surveys were distributed to and received from the following types of prevention and care organizations:

<b>Agency Type</b>	<b>Surveys sent</b>	<b>Surveys received</b>	<b>Rate</b>
Alcohol and Other Drug	33	10	30%
Community Health Center	20	4	20%
HIV Prevention Provider/ASO*	18	7	39%
DHEC Public Health Regions	8	8	100%
Other	3	1	100%

\*ASO: AIDS Service Organization

30 surveys were returned. Of the 30 surveys, the organization breakdown was as follows:

- Alcohol and Other Drug: 10 surveys (33% of all surveys received)
- Community Health Center: 4 surveys (13%)
- HIV Prevention Provider: 7 surveys (23%)
- DHEC Public Health Regions: 8 surveys (27%)
- Other: 1 survey (3%)

The survey was designed to assess seven domains of Viral Hepatitis programs:

- Program Administration
- Vaccination
- Professional Training
- General Education
- Counseling, Testing and Referral
- Medical Management
- Surveillance

## **Results**

Results from all questions can be found in Appendix C. Some highlights are below.

### **Program Administration**

- 63% of agencies surveyed have integrated adult viral hepatitis services.
- 73% of agencies surveyed are not seeking funds to support unmet viral hepatitis prevention care needs.

### **Vaccination**

- 53% of agencies surveyed do not have access to free (Section 317) adult hepatitis B vaccine.

### **Professional Training**

- 93% of agencies surveyed would be interested in receiving training on topics related to viral hepatitis services.
- 80% of agencies surveyed would be interested in receiving training on integration of viral hepatitis services into existing programs.

### **General Education**

- 63% of agencies surveyed distribute brochures related to viral hepatitis prevention.
- 60% of agencies respond to questions from the public related to viral hepatitis.

### **Counseling, Testing and Referral (CTR)**

- 50% of agencies surveyed provide on-site testing.
  - Among the sites that provide on-site testing, eight approximated the number of tests administered in 2008. Five sites reported providing <200 and three sites reported providing 250 or more tests (ranging from 250 to 514).
  - Among the sites that provide on-site testing, 13 (87%) responded that they provide HCV testing regardless of the person's ability to pay.

### **Medical Management**

- 90% of agencies surveyed do not provide medical care/treatment to persons living with chronic viral hepatitis.

### **Surveillance**

- 67% of agencies surveyed do not monitor the number of HCV tests administered.
- 67% of agencies surveyed do not monitor the number of positive HCV tests identified, i.e., positivity rate.

### **Challenges/Limitations To Survey**

- Identify and distribute to more providers.
- Increase representative responses from private medical providers and correctional settings.
- Increase representative responses from groups within and serving high-risk populations ("priority populations").

## **Gaps Identified by the Committee**

### **Program Administration**

- Programs/services that focus on STD and HIV services are not funded to integrate viral hepatitis activities into those services.
- No formal advocacy organization in South Carolina for viral hepatitis issues.

### **Vaccination**

- Hepatitis vaccination coverage levels for adults in the U.S. are very low. According to the 2007 National Immunization Survey data, only 23.4 percent of adults (28 to 49 years old) have received 3 doses of hepatitis B vaccine.
- Lack of collaboration between alcohol and other drug (AOD) agencies, other partners and health departments for adult vaccination.

### **Professional Training**

- A need for training:
  - 80% of survey respondents indicated an interest in training on hepatitis service integration.
  - 93% of agencies surveyed indicated an interest in education on topics related to viral hepatitis services.

### **General Public Education**

- Lack of comprehensive education and outreach.

### **Counseling, Testing, Referral (CTR)**

- Lack of awareness in staff of opportunities for integration of viral hepatitis prevention services, notably HCV testing.
- No system to track number of HCV tests provided each year.
- Many people who are at risk have not been tested and are not aware they are at risk.

### **Clinical and Medical Management**

- Lack of specialists serving uninsured patients for ongoing medical management.
- Lack of clinical/medical management for persons living with HCV.
- Lack of support services for persons receiving HCV treatment.

### **Surveillance and Data**

- Limited data available to guide or redirect viral hepatitis prevention activities.
- Limited data available to determine how many HCV infected persons are receiving appropriate medical care.

## **Identified Needs**

The needs listed below represent the work of the Viral Hepatitis Strategic Planning Committee as discussed at the June 24, 2009 meeting.

### **Program Administration**

- Funding is needed for viral hepatitis prevention activities. The state of South Carolina receives limited federal funding and no state funding to provide viral hepatitis prevention services to state residents. The limited federal funds (less than \$200,000 in 2009) have been used for adult hepatitis vaccination, HCV testing and state level coordination.
- Need for hepatitis C support groups.
- Need for increased coordination of viral hepatitis efforts between agencies/entities serving populations at risk for viral hepatitis.
- Need for collaboration among health service organizations (HSOs) who are serving the same high-risk populations,
- Need for legislative education.
- Need for legislative support for funding.

### **Vaccination**

- Need to increase hepatitis vaccination for high-risk adults in SC.
- Need to integrate adult hepatitis vaccination into other programs serving adults at risk.

### **Professional Training**

- Need to increase staff awareness of opportunities for integration of viral hepatitis prevention services, notably HCV testing.
- Need for an accurate screening tool to identify persons most at risk for HCV.
- Need to increase staff awareness of importance of HCV testing:
  - To prevent further liver damage
  - To prevent transmission to others
  - To refer for medical evaluation
- Need to optimize overall hepatitis training for frontline providers in an effort to increase awareness of hepatitis prevention.

### **General Public Education**

- Need to make viral hepatitis information available on various agency Web sites (i.e. DHEC, Department of Alcohol and Other Drug Abuse Services, Department of Corrections, Department of Mental Health).
- General population of SC has a significant need for increased awareness of different types of hepatitis (A, B, and C) along with prevention and treatment.

### **Counseling, Testing, Referral (CTR)**

- Need to identify persons at risk for HCV infection.

- More persons infected with HCV who are unaware of their status need to be tested.

### **Clinical/Medical**

- Need to increase access to medical care for HCV infected persons
- Need to identify champions among providers and partner agencies for viral hepatitis services.
- Need for comprehensive physician referral list.
- Need for counseling and support necessary to see the patient through the long duration of treatment.
- Need to integrate prevention activities into existing clinical services and public health programs, such as STD, HIV, Family Planning, and drug abuse.

### **Surveillance and Data**

- Need for current data on burden of disease in SC. The true burden of disease for chronic HBV and HCV in South Carolina is not well known.
- Need for funding for viral hepatitis surveillance programs.

## **Recommendations to Reach South Carolina's Priority Populations**

### **Priority Populations**

Priority populations are defined as those persons who have a known risk behavior or other exposure that places them at increased risk for viral hepatitis. Priority populations have higher rates of infection and are less likely to have access to healthcare services. Priority populations need coordinated, comprehensive services, including medical care, mental health, and substance abuse treatment.

Men who have sex with men (MSM) are at increased risk for HAV and HBV transmission. They comprise approximately 15% to 25% of all new HBV infections in the U.S. CDC recommends testing MSM for chronic HBV infection because of higher rates of infection among this population. Injection drug users are at increased risk of acquiring hepatitis C infection. Persons who are coinfecting with HIV and HCV are particularly vulnerable to serious complications.

### **Program Administration**

- Stakeholders and community partners should apply for funding opportunities.
- Collaborate with other partners to reach specific priority populations in 2010.
- Plan future comprehensive resource inventory survey in 2010.
- Increase staff advocacy/support for integration of viral hepatitis services.
- Maintain and expand the Viral Hepatitis Strategic Planning Committee as an advisory group to meet at least three times each year.

### **Vaccination**

- Promote and expand hepatitis B vaccination for high-risk adults.
- Increase outreach to vaccinate MSM.
- Maximize hepatitis vaccine in all agencies and programs.
- Distribute vaccine vouchers at events frequented by priority populations (i.e., GLBT events including S.C. Pride; AA/NA group meetings and other events frequented by persons in recovery).

### **Professional Training**

- Develop screening tool with training to identify persons most at risk for HCV:
  - To assess HCV risk
  - To educate and refer HCV-positive persons (including referral to SC Hepatitis C Coalition for support)
  - To determine indications for hepatitis B vaccine
- Collaborate with Southeast AIDS Training and Education Center (SEATEC) for regional trainings.

- Increase strategies to train staff in agencies to integrate viral hepatitis prevention activities into existing services (e.g. public health STD/HIV programs, alcohol and other drug abuse (AOD) agencies).

### **General Public Education**

- Increase public awareness of viral hepatitis.
- Make viral hepatitis information available electronically on various agency Web sites (i.e. DHEC, Department of Alcohol and Other Drug Abuse Services, Department of Corrections, Department of Mental Health).
- Develop/disseminate education materials for consumers to help them better understand their risk for contracting HCV.
- Create public service announcements.
- Participate in events that target priority populations (i.e. World AIDS Day, AOD recovery events, S.C. Pride, World Hepatitis Day).

### **Counseling, Testing, Referral (CTR)**

- Increase identification of persons at risk for HCV.
- Increase access to testing for persons at risk for HCV.

### **Clinical/Medical**

- Promote the Viral Hepatitis Prevention Plan among public and private partners.
- Develop comprehensive physician referral list.
- Seek additional medical consultants from the private community to serve on the Strategic Planning Committee.
- Continued support for the Hepatitis C Coalition to provide information, assistance, support services, and referrals to newly diagnosed HCV-positive persons.
- Increase medical and support services for patients with HCV.
- Encourage integration of prevention activities into existing clinical services and public health programs.

### **Surveillance – Data**

- Continue to support and improve current viral hepatitis surveillance efforts
- Promote increased funding for viral hepatitis surveillance.
- Collect additional data to refine our knowledge of the burden of disease for chronic HCV in S.C., such as:
  - Death certificate data
  - Hospitalization data
  - Liver transplant data
  - Patient surveys

## References

Centers for Disease Control and Prevention. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices (ACIP); Part II: Immunization of Adults. MMWR 2006;55(No.RR-16).

<http://www.cdc.gov/mmwr/PDF/rr/rr5516.pdf>

Centers for Disease Control and Prevention. Recommendations for identification and public health management of persons with chronic hepatitis B virus infections, 2001. MMWR 2008;57(No.RR-8). <http://www.cdc.gov/mmwr/PDF/rr/rr5708.pdf>

Centers for Disease Control and Prevention. Surveillance for acute viral hepatitis – United States, 2007. MMWR 2009;58(No.SS-3).

<http://www.cdc.gov/mmwr/PDF/ss/ss5803.pdf>

National Hepatitis C Prevention Strategy: A comprehensive strategy for the prevention and control of hepatitis C virus infection and its consequences. 2001. Division of Viral Hepatitis, CDC.

<http://www.cdc.gov/hepatitis/HCV/Strategy/PDFs/NatHepCPrevStrategy.pdf>

Annals of Internal Medicine. The prevalence of hepatitis C virus infection in the United States, 1999 through 2002. 2006;144:705-714.

For information, call the S.C AIDS/STD Hotline at 1-800-322-2437 or visit [www.scdhec.gov/stdhiv](http://www.scdhec.gov/stdhiv).

# Appendix A

Disease Burden from Viral Hepatitis A, B and C in the  
United States

## Disease Burden from Viral Hepatitis A, B, and C in the United States

	Hepatitis A					
	2007	2006	2005	2004	2003	2002
No. of Acute Clinical Cases Reported <sup>a</sup>	2,979	3,579	4,488	5,683	7,653	8,795
Estimated No. of Acute Clinical Cases <sup>b</sup>	13,000	15,000	19,000	24,000	33,000	38,000
Estimated No. of New Infections <sup>b</sup> (current)	25,000	32,000	42,000	56,000	61,000	73,000
Percent Ever Infected <sup>c</sup>	29.1% - 33.5%					
Number of Persons Living with Chronic Infection <sup>d</sup>	No chronic infection					
Annual Number of Chronic Liver Disease Deaths associated with Viral Hepatitis <sup>e</sup>	No chronic infection					

	Hepatitis B					
	2007	2006	2005	2004	2003	2002
No. of Acute Clinical Cases Reported <sup>a</sup>	4,519	4,758	5,494	6,212	7,526	8,064
Estimated No. of Acute Clinical Cases <sup>b</sup>	13,000	13,000	15,000	17,000	21,000	23,000
Estimated No. of New Infections <sup>b</sup> (current)	43,000	46,000	53,000	60,000	73,000	79,000
Percent Ever Infected <sup>c</sup>	4.3% - 5.6%					
Number of Persons Living with Chronic Infection <sup>d</sup>	800,000 - 1.4 million persons					
Annual Number of Chronic Liver Disease Deaths associated with Viral Hepatitis <sup>e</sup>	3,000					

	Hepatitis C					
	2007	2006	2005	2004	2003	2002
No. of Acute Clinical Cases Reported <sup>a</sup>	849	802	694	758	891	1,223
Estimated No. of Acute Clinical Cases <sup>b</sup>	2,800	3,200	3,400	4,200	4,500	4,800
Estimated No. of New Infections <sup>b</sup> (current)	17,000	19,000	21,000	26,000	28,000	29,000
Percent Ever Infected <sup>c</sup>	1.3% - 1.9%					
Number of Persons Living with Chronic Infection <sup>d</sup>	2.7–3.9 million persons					
Annual Number of Chronic Liver Disease Deaths associated with Viral Hepatitis <sup>e</sup>	12,000					

**Notes on sources and methodology:****a. Number of Acute Clinical Cases Reported:**

For hepatitis A, hepatitis B, and hepatitis C/non-A, non-B hepatitis, the number of cases reported to the National Notifiable Disease Surveillance System (NNDSS).

**b. Estimated Number of Acute Clinical Cases and New Infections:**

Incidence estimates for hepatitis A and hepatitis B are derived from catalytic modeling of seroprevalence data from the Third National Health and Nutrition Examination Survey (NHANES III) applied to cases reported to the Nationally Notifiable Disease Surveillance System (NNDSS). Incidence estimates for hepatitis C are derived by adjusting rates from the Sentinel Counties Study of Viral Hepatitis (1982–2006) and Emerging Infection Program (2007) for underreporting and asymptomatic infection.

**c. Percent Ever Infected:**

Seroprevalence estimates for HAV, HBV and HCV come from the National Health and Nutrition Examination Survey **HAV:** Bell BP, Kruszon-Moran D, Shapiro CN et al. Hepatitis A virus infection in the United States: serologic results from the Third National Health and Nutrition Examination Survey. *Vaccine* 23(2005):5798-5806. **HBV:** McQuillan GM, et al. Prevalence of hepatitis B virus infection in the United States: The National Health and Nutrition and Examination Surveys, 1976 through 1994. *AJPH* 1999; 89(1):14-18. **HCV:** Armstrong GL et al. The prevalence of hepatitis C virus infection in the United States, 1999 through 2002. *Ann Int Med* 2006;144:705-14.

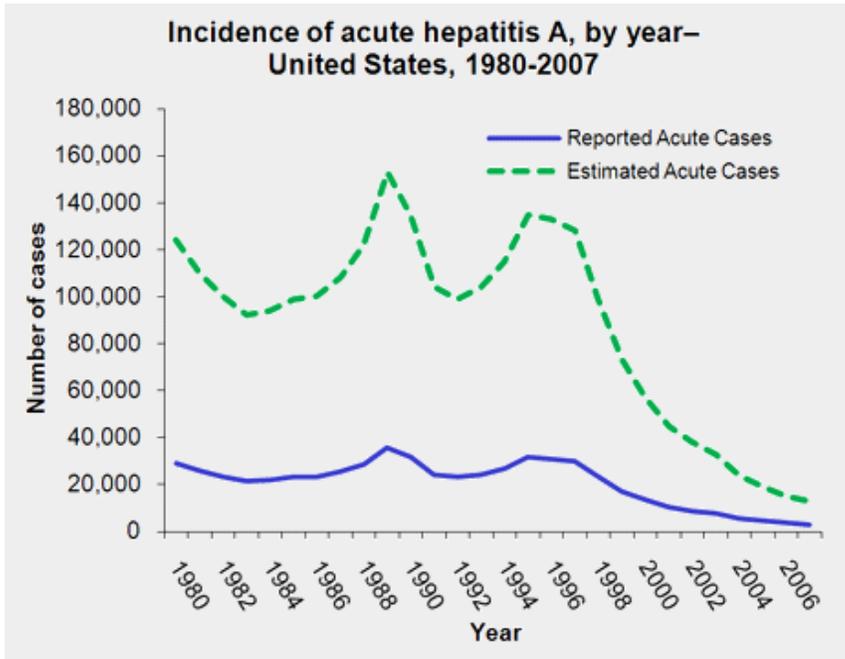
**d. Number of Persons Living with Chronic Infection:**

**HBV:** CDC. Recommendations for identification and public health management of persons with chronic hepatitis B virus infection. *MMWR* 2008;57(No. RR-8). **HCV:** Armstrong GL et al. The prevalence of hepatitis C virus infection in the United States, 1999 through 2002. *Ann Int Med* 2006;144:705-14.

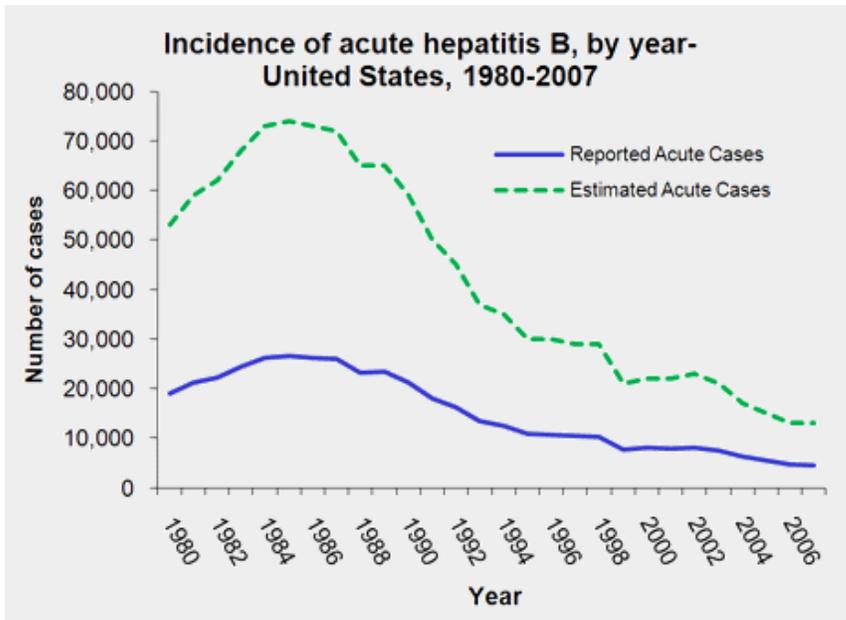
**e. Annual Number of Chronic Liver Disease Deaths associated with Viral Hepatitis:**

**HBV:** Vogt TM et al. Hepatitis B mortality in the United States, 1990–2004. Paper presented at 45th Annual Meeting of the Infectious Disease Society of America; October 4–7, 2007; San Diego, CA. and Manos MM et al. Limitations of conventionally derived chronic liver disease mortality rates: results of a comprehensive assessment. *Hepatology* 2008;47:1150-7. **HCV:** Wise M et al. Changing trends in hepatitis C-related mortality in the United States, 1995–2004. *Hepatology* 2008;47:1–8.

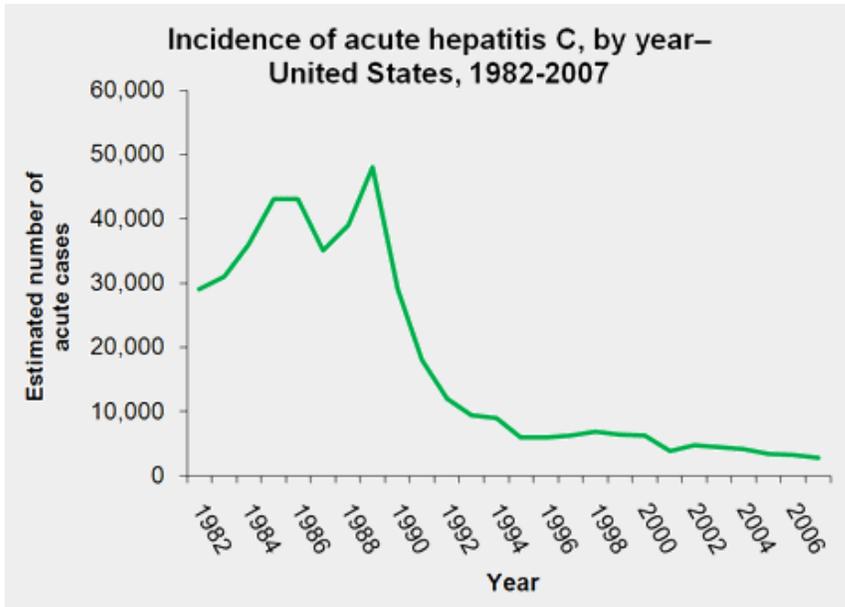
**Acute Disease Burden Data, 1980–2007**



Incidence of hepatitis A, United States			
Year	Reported Acute Cases	Estimated Acute Cases	Estimated Total New Infections
1980	29,087	124,000	234,000
1981	25,802	110,000	223,000
1982	23,404	100,000	228,000
1983	21,534	92,000	221,000
1984	22,038	94,000	232,000
1985	23,211	99,000	228,000
1986	23,429	100,000	239,000
1987	25,280	108,000	255,000
1988	28,506	122,000	305,000
1989	35,822	153,000	380,000
1990	31,522	135,000	373,000
1991	24,219	104,000	288,000
1992	23,112	99,000	274,000
1993	24,238	104,000	284,000
1994	26,796	115,000	333,000
1995	31,582	135,000	356,000
1996	31,032	133,000	335,000
1997	30,021	128,000	341,000
1998	23,299	99,000	243,000
1999	17,047	73,000	181,000
2000	13,397	57,000	143,000
2001	10,616	45,000	93,000
2002	8,795	38,000	73,000
2003	7,653	33,000	61,000
2004	5,683	24,000	56,000
2005	4,488	19,000	42,000
2006	3,579	15,000	32,000
2007	2,979	13,000	25,000



Incidence of hepatitis B, United States			
Year	Reported Acute Cases	Estimated Acute Cases	Estimated Total New Infections
1980	19,014	53,000	208,000
1981	21,151	59,000	229,000
1982	22,176	62,000	239,000
1983	24,319	68,000	267,000
1984	26,116	73,000	281,000
1985	26,612	74,000	287,000
1986	26,106	73,000	283,000
1987	25,915	72,000	287,000
1988	23,175	65,000	253,000
1989	23,421	65,000	255,000
1990	21,277	59,000	232,000
1991	17,911	50,000	193,000
1992	16,126	45,000	175,000
1993	13,361	37,000	144,000
1994	12,517	35,000	133,000
1995	10,805	30,000	113,000
1996	10,637	30,000	112,000
1997	10,416	29,000	110,000
1998	10,258	29,000	109,000
1999	7,694	21,000	79,000
2000	8,036	22,000	81,000
2001	7,844	22,000	78,000
2002	8,064	23,000	79,000
2003	7,526	21,000	73,000
2004	6,212	17,000	60,000
2005	5,494	15,000	53,000
2006	4,758	13,000	46,000
2007	4,519	13,000	43,000



Incidence of hepatitis C, United States		
Year	Estimated Acute Cases	Estimated Total New Infections
1982	29,500	180,000
1983	30,800	188,000
1984	36,000	219,000
1985	42,700	261,000
1986	43,000	262,000
1987	35,400	216,000
1988	39,400	240,000
1989	47,800	291,000
1990	29,400	179,000
1991	18,400	112,000
1992	12,000	73,000
1993	9,400	57,000
1994	8,900	54,000
1995	5,900	36,000
1996	5,900	36,000
1997	6,300	38,000
1998	6,800	41,000
1999	6,400	39,000
2000	6,300	38,000
2001	3,900	24,000
2002	4,800	29,000
2003	4,500	28,000
2004	4,200	26,000
2005	3,400	21,000
2006	3,200	19,000
2007	2,800	17,000

# Appendix B

Fact Sheets

# HEPATITIS A

## General Information



- Who is at risk?
- Although anyone can get hepatitis A, some people are at greater risk, such as those who:
  - Travel to or live in countries where hepatitis A is common
  - Have sexual contact with someone who has hepatitis A
  - Are men who have sexual contact with other men
  - Use certain illegal drugs, whether injected or not
  - Have clotting-factor disorders, such as hemophilia
  - Are household members or caregivers of a person infected with hepatitis A

## What is hepatitis?

“Hepatitis” means inflammation of the liver. Hepatitis is most often caused by one of several viruses, such as hepatitis A virus, hepatitis B virus, or hepatitis C virus. Toxins, certain drugs, some diseases, heavy alcohol use, bacterial infections, and viral infections can also cause hepatitis.

## What is hepatitis A?

Hepatitis A is a contagious liver disease that results from infection with the hepatitis A virus. It can range in severity from a mild illness lasting a few weeks to a severe illness lasting several months.

## How common is hepatitis A in the United States?

Hepatitis A still occurs in the United States, although not as frequently as it once did. During the last 20 years, the number of cases of hepatitis A has steadily declined. The estimated 373,000 new infections in 1990 dropped to 143,000 by the year 2000. New cases are now estimated to be around 30,000 each year. Many experts believe this decline is a result of the vaccination of children and people at risk for hepatitis A.

**Hepatitis A can be prevented with a safe and effective vaccine.**

## How is hepatitis A spread?

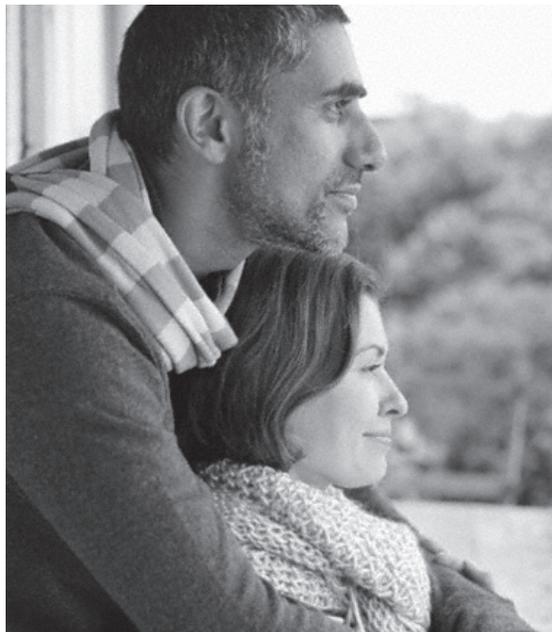
Hepatitis A is usually spread when a person ingests fecal matter — even in microscopic amounts — from contact with objects, food, or drinks contaminated by the feces or stool from an infected person.

It can be spread when:

- An infected person does not wash his/her hands properly after going to the bathroom and then touches objects or food
- A caregiver does not properly wash his or her hands after changing diapers or cleaning up the stool of an infected person
- Someone engages in certain sexual activities, such as oral-anal contact with an infected person

Hepatitis A can also be spread through contaminated food or water. This most often occurs in countries where hepatitis A is common, especially if sanitary conditions or personal hygiene are poor. Contamination of food can happen at any point: growing, harvesting, processing, handling, and even after cooking.





## Who should get vaccinated against hepatitis A?

- Men who have sexual contact with other men
- Users of injection and non injection illegal drugs
- People with chronic or long term liver disease, such as hepatitis B or hepatitis C
- Travelers to countries where hepatitis A is common
- People with clotting-factor disorders
- People who work with hepatitis A virus in a research laboratory or with animals infected with the virus
- Family and caregivers planning an adoption from a country where hepatitis A is common
- All children at age 1 year

## For more information

Talk to your health professional, call your health department, or visit [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)

## What are the symptoms of hepatitis A?

Not everyone gets symptoms. If symptoms develop, they usually appear 2 to 6 weeks after exposure and can include:

- Fever
- Nausea
- Clay-colored bowel movements
- Fatigue
- Vomiting
- Joint pain
- Loss of appetite
- Abdominal pain
- Jaundice
- Dark urine

Symptoms are more likely to occur in adults than children. They usually last less than 2 months, although some people can be ill for as long as 6 months.

## How is hepatitis A diagnosed and treated?

A doctor can determine if a person has hepatitis A by discussing his or her symptoms and taking a blood sample. There are no special treatments for hepatitis A. Doctors usually recommend rest, adequate nutrition, and fluids, although a few people will need to be hospitalized. It can take a few months before people begin to feel better.

**People can spread hepatitis A even if they don't look or feel sick. Some adults and many children have no symptoms.**

## How serious is hepatitis A?

Most people who get hepatitis A feel sick for several months, but they usually recover completely and do not have lasting liver damage. Sometimes hepatitis A can cause liver failure and death, although this is rare and occurs more commonly in people older than 50 and people with other liver diseases.

## Can hepatitis A be prevented?

Yes. The best way to prevent hepatitis A is by getting vaccinated. Experts recommend the vaccine for all children, some international travelers, and people with certain risk factors and medical conditions. The hepatitis A vaccine is safe and effective and given as 2 shots, 6 months apart. Both shots are needed for long-term protection. Frequent handwashing with soap and water — particularly after using the bathroom, changing a diaper, or before preparing or eating food — also helps prevent the spread of hepatitis A.

Once a person recovers from hepatitis A, he or she cannot get it again or spread it to others. For these individuals, the vaccine offers no benefit since they have already been infected.



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# HEPATITIS B

## General Information



### Who is at risk?

Although anyone can get hepatitis B, some people are at greater risk, such as those who:

- Have sexual contact with an infected person
- Have multiple sex partners
- Have a sexually transmitted disease
- Are men who have sexual contact with other men
- Inject drugs or share needles, syringes, or other drug equipment
- Live with a person who has chronic hepatitis B
- Are infants born to infected mothers
- Are exposed to blood on the job
- Are hemodialysis patients

### What is hepatitis?

“Hepatitis” means inflammation of the liver. Hepatitis is most often caused by one of several viruses, such as hepatitis A virus, hepatitis B virus, or hepatitis C virus. Toxins, bacterial infections, certain drugs, other diseases, and heavy alcohol use can also cause hepatitis.

### What is hepatitis B?

Hepatitis B is a contagious liver disease that results from infection with the hepatitis B virus. It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness. Hepatitis B can be either “acute” or “chronic”.

Acute hepatitis B virus infection is a short-term illness that occurs within the first 6 months after someone is exposed to the hepatitis B virus. Acute infection can — but does not always — lead to chronic infection.

Chronic hepatitis B virus infection is a long-term illness that occurs when the hepatitis B virus remains in a person’s body.

**The best way to prevent hepatitis B is by getting vaccinated.**

### How common is hepatitis B in the United States?

The number of acute hepatitis B virus infections has been declining each year, with an estimated 46,000 new infections in 2006. Many experts believe this decline is a result of widespread vaccination of children. However, up to 1.4 million people may have chronic hepatitis B, many of whom are unaware of their infection.

### How is hepatitis B spread?

Hepatitis B is usually spread when blood, semen, or another body fluid from a person infected with the hepatitis B virus enters the body of someone who is not infected. This can happen through sexual contact with an infected person or sharing needles, syringes, or other drug-injection equipment. Hepatitis B can also be passed from an infected mother to her baby at birth.

Hepatitis B is not spread through breastfeeding, sharing eating utensils, hugging, kissing, holding hands, coughing, or sneezing. Unlike some forms of hepatitis, hepatitis B is not spread by contaminated food or water.



### Can hepatitis B be spread through sex?

Yes. In the United States, hepatitis B is most commonly spread through sexual contact. The hepatitis B virus is 50–100 times more infectious than HIV and can be passed through the exchange of body fluids, such as semen, vaginal fluids, and blood.



## Who should get vaccinated against hepatitis B?

- Anyone having sex with an infected partner
- People with multiple sex partners
- Anyone with a sexually transmitted disease
- Men who have sexual contact with other men
- Users of injection drugs
- People who live with someone who is infected
- People with chronic liver disease, end stage renal disease, or HIV infection
- Healthcare and public safety workers exposed to blood
- Residents or staff of facilities for developmentally disabled persons
- Travelers to certain countries
- Infants or children younger than 19 who have not been vaccinated
- Anyone who wants to be protected from hepatitis B

## For more information

Talk to your health professional, call your health department, or visit [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)

## What are the symptoms of acute hepatitis B?

Not everyone has symptoms with acute hepatitis B, especially young children. Most adults have symptoms that appear within 3 months of exposure. Symptoms can last from a few weeks to several months and include:

- |                    |                  |                                |
|--------------------|------------------|--------------------------------|
| ■ Fever            | ■ Nausea         | ■ Clay-colored bowel movements |
| ■ Fatigue          | ■ Vomiting       | ■ Joint pain                   |
| ■ Loss of appetite | ■ Abdominal pain | ■ Jaundice                     |
|                    | ■ Dark urine     |                                |

## What are the symptoms of chronic hepatitis B?

Many people with chronic hepatitis B remain symptom free for up to 30 years, but others experience ongoing symptoms similar to those of acute hepatitis B. Chronic hepatitis B is a serious disease that can result in long-term health problems.

## How is hepatitis B diagnosed and treated?

Doctors diagnose the infection using one or more blood tests. There is no medication available to treat acute hepatitis B, so doctors usually recommend rest, adequate nutrition, and fluids. People with chronic hepatitis B virus infection should be monitored regularly for signs of liver disease, and some people benefit from treatment with specific medications.

## How serious is chronic hepatitis B?

Over time, approximately 15%–25% of people with chronic hepatitis B develop serious liver problems, including liver damage, cirrhosis, liver failure and liver cancer. Every year, up to 4,000 people in the United States and more than 600,000 people worldwide die from hepatitis B-related liver disease.

## Can hepatitis B be prevented?

Yes. The best way to prevent hepatitis B is by getting vaccinated. For adults, the hepatitis B vaccine series is usually given as 3 shots during a 6-month period. The entire series is needed for long-term protection. However, once a person has been infected with the hepatitis B virus, the vaccine does not provide protection against the disease.



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# CHRONIC HEPATITIS B

## Information on Testing



### Who should be tested for hepatitis B?

Testing for hepatitis B is recommended for certain groups of people, including:

- People born in Asia, Africa and other regions with moderate or high rates of hepatitis B (See map)
- Unvaccinated people whose parents are from regions with high rates of hepatitis B (See map)
- Anyone having sex with a person infected with hepatitis B
- People who live with someone who is infected
- Men who have sexual contact with other men
- Injection drug users
- All pregnant women
- People with HIV or AIDS
- Persons with selected medical conditions who receive immunosuppressive therapy (hemodialysis or chemotherapy)

### What is hepatitis B?

Hepatitis B is a contagious liver disease that results from infection with the hepatitis B virus. Some people get infected with hepatitis B and develop an acute, or short-term, illness, while others develop a chronic, or long-term, illness.

### How is hepatitis B spread?

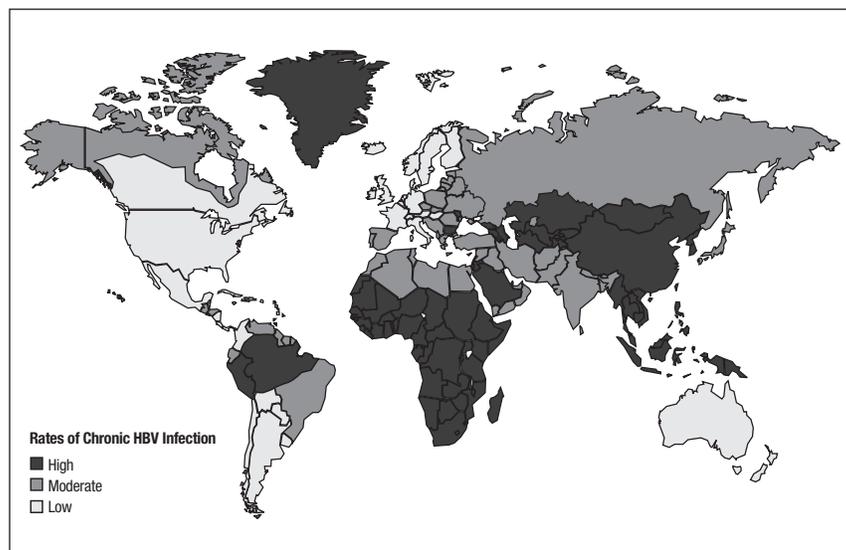
Hepatitis B is usually spread when blood, semen, or another body fluid from a person infected with the hepatitis B virus enters the body of someone who is not infected. This can happen through direct contact with the blood or open sores of an infected person; having sex with an infected partner; an infected mother passing it to her baby at birth; or sharing needles, syringes, or other drug-injection equipment.

**Up to 1.4 million people in the United States and 350 million people worldwide may have chronic hepatitis B. Most are unaware of their infection.**

### Why is chronic hepatitis B so common?

As shown in the map below, chronic hepatitis B is very common. Worldwide, most people with chronic hepatitis B were infected with the virus at birth or during early childhood. Many of those infected are unaware that they have chronic hepatitis B, especially since they have no symptoms. As a result, they can spread the disease to others, including people they live with, sexual partners, and — for women — their newborns.

### Worldwide Rates of Chronic Hepatitis B Virus Infection





## How is chronic hepatitis B diagnosed?

Doctors use one or more blood tests to diagnose hepatitis B virus infection. If this test is negative, a person does not have chronic hepatitis B. If the test is positive, additional blood tests are needed to determine whether or not a person has chronic infection.

## How is chronic hepatitis B treated?

People with chronic infection should see a doctor experienced in treating hepatitis B. He or she can determine the most appropriate medical care. People need to be monitored on a regular basis, and some will benefit from medication. Several new drugs are available which can delay or reverse the effects of liver disease.

## For more information

Talk to your health professional, call your health department, or visit [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)

## What are the benefits of getting tested for chronic hepatitis B?

Testing is the best way to determine whether or not a person has chronic infection. Many people with chronic hepatitis B don't know they are infected since they don't look or feel sick.

Learning if one is infected is key to diagnosing hepatitis B early and getting appropriate medical care. In addition, testing can identify at-risk household members and sexual partners so they can be tested, and if uninfected, vaccinated to protect them from getting hepatitis B.

## What are the symptoms of chronic hepatitis B?

Many people with chronic hepatitis B remain symptom free for up to 30 years. Some people experience symptoms similar to those of acute hepatitis B infection, including fever, fatigue, abdominal pain, and jaundice (yellowing of the skin and eyes).

## How serious is chronic hepatitis B?

Over time, approximately 15%–25% of people with chronic hepatitis B develop serious liver problems, including liver damage, cirrhosis, liver failure, or liver cancer. Every year, up to 4,000 people in the United States and more than 600,000 people worldwide die from hepatitis B-related liver disease.

## What can people infected with hepatitis B do to take care of their liver?

People with chronic hepatitis B virus infection should see a doctor regularly. They also should ask their health professional before taking any prescription pills or over-the-counter medications — including herbal supplements or vitamins — as they can potentially damage the liver. Alcohol should also be avoided, since it can accelerate liver damage.

## Can hepatitis B be prevented?

Yes. The best way to prevent hepatitis B is by getting vaccinated. For adults, the hepatitis B vaccine is usually given as a 3-shot series during a 6-month period. It is recommended for uninfected sexual partners and household members of anyone infected with hepatitis B, as well as for people with certain risk factors and medical conditions. Once a person has been infected with the hepatitis B virus, however, the vaccine does not provide protection against the disease.



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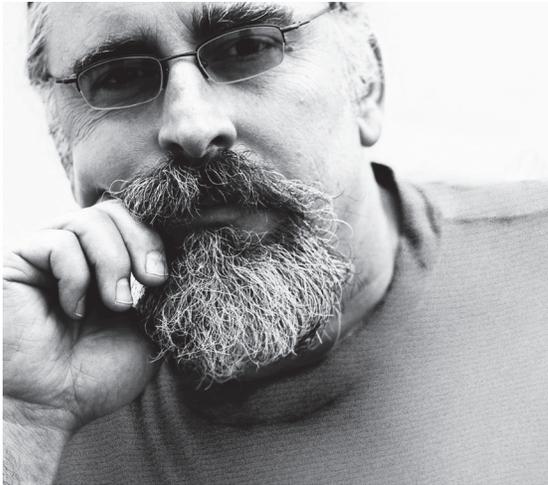
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# HEPATITIS C

## General Information



### Can hepatitis C be prevented?

Yes. To reduce the risk of becoming infected with the hepatitis C virus:

- Do not share needles or other equipment to inject drugs, steroids, or cosmetic substances
- Do not use personal items that may have come into contact with an infected person's blood, such as razors, nail clippers, toothbrushes, or glucose monitors
- Do not get tattoos or body piercings from an unlicensed facility or in an informal setting

### Is there a vaccine for hepatitis C?

Although there is currently no vaccine to prevent hepatitis C, research is being conducted to develop one. Vaccines are available for hepatitis A and hepatitis B.

### What is hepatitis?

"Hepatitis" means inflammation of the liver. Heavy alcohol use, toxins, certain medications, some diseases, and viral infections can cause hepatitis. Hepatitis is most often caused by one of several viruses, such as hepatitis A virus, hepatitis B virus, or hepatitis C virus.

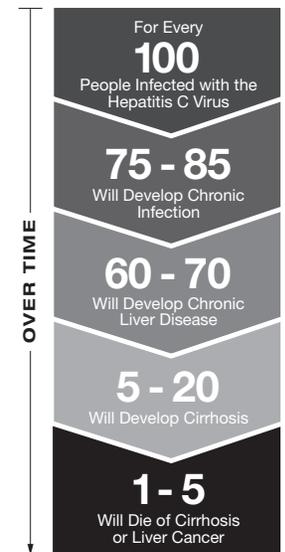
### What is hepatitis C?

Hepatitis C is a contagious liver disease that results from infection with the hepatitis C virus. It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness that damages the liver. Hepatitis C can be either "acute" or "chronic".

**Acute** hepatitis C virus infection is a short-term illness that occurs within the first 6 months after someone is exposed to the hepatitis C virus. Approximately 75%-85% of people who become infected with the hepatitis C virus develop chronic infection. For reasons that are not known, 15-25% of people "clear" the virus without treatment and do not develop chronic infection.

**Chronic** hepatitis C virus infection is a long-term illness that occurs when the hepatitis C virus remains in a person's body. Chronic infection can last a lifetime. Over time, it can lead to serious liver problems, including liver damage, cirrhosis, liver failure, or liver cancer (see chart).

#### Progression of Hepatitis C



### How is hepatitis C spread?

Hepatitis C is usually spread when blood from a person infected with the hepatitis C virus enters the body of someone who is not infected. Today, most people become infected with the hepatitis C virus by sharing needles or other equipment to inject drugs. Before widespread screening of the blood supply began in 1992, hepatitis was also commonly spread through blood transfusions and organ transplants. Although rare, outbreaks of hepatitis C have occurred from blood contamination in medical settings.

### Can hepatitis C be spread through sex?

Yes, although scientists do not know how frequently this occurs. Rough sex, sex with multiple partners, or having a sexually transmitted disease or HIV appears to increase a person's risk of hepatitis C. There also appears to be an increased risk for sexual transmission of hepatitis C among gay men who are HIV positive.

### Can a person get hepatitis C from a tattoo or piercing?

There is little evidence that hepatitis C is spread by getting tattoos in licensed, commercial facilities. Whenever tattoos or body piercings are performed in informal settings or with non-sterile instruments, transmission of hepatitis C and other infectious diseases is possible.



## Does hepatitis C cause symptoms?

Most people with hepatitis C have no symptoms. If symptoms develop with acute infection, they can appear 2 weeks to 6 months after exposure and can include: fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay colored bowel movements, joint pain, and jaundice. For people with chronic hepatitis C, symptoms may take years to develop. They can be similar to acute infection and can also be a sign of advanced liver disease.

## Who should get tested for hepatitis C?

People at risk include those who:

- Currently inject drugs
- Injected drugs in the past, even if it was once or many years ago
- Have HIV or AIDS
- Have abnormal liver tests or liver disease
- Received donated blood or organs before 1992
- Have been exposed to blood on the job through a needlestick or injury with a sharp object
- Are getting long term hemodialysis

## How common is hepatitis C?

An estimated 3.2 million people in the United States have chronic hepatitis C, and many are unaware of their infection. Each year, about 17,000 Americans become infected with hepatitis C.

## How serious is chronic hepatitis C?

Chronic hepatitis C is a serious disease that can result in long-term health problems, including liver damage, liver failure, and liver cancer. Approximately 8,000–10,000 people die every year from hepatitis C-related liver disease.

## How is hepatitis C diagnosed?

Doctors diagnose both acute and chronic infection using one or more blood tests. Typically, a person first gets a screening test that looks for “antibodies” to the hepatitis C virus. Antibodies are chemicals released into the bloodstream when a person becomes infected. They remain in the bloodstream, even if the person clears the virus. If the screening test is positive for hepatitis C antibodies, different blood tests are needed to determine whether the infection has been cleared or has become a chronic infection.



## How is hepatitis C treated?

Acute hepatitis C rarely causes symptoms and often goes undiagnosed. When it is diagnosed, doctors recommend rest, adequate nutrition, fluids, and antiviral medications. People with chronic hepatitis C should be monitored regularly for signs of liver disease. Even though a person may not have symptoms or feel sick, damage to the liver can still occur. Antiviral medication can be used to treat some people with chronic hepatitis C, although not everyone needs or can benefit from treatment. For many, treatment can be successful and results in the virus no longer being detected.

## What can people infected with hepatitis C do to take care of their liver?

People with chronic hepatitis C virus infection should see a doctor regularly. They also should ask their health professional before taking any prescription pills or over-the-counter medications—including herbal supplements or vitamins—as they can potentially damage the liver. People with chronic infection should also avoid alcohol since it can accelerate liver damage.

## For more information

Talk to your health professional, call your health department, or visit [www.cdc.gov/hepatitis](http://www.cdc.gov/hepatitis)



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# The ABCs of Hepatitis

	<b>HEPATITIS A</b> is caused by the hepatitis A virus (HAV)	<b>HEPATITIS B</b> is caused by the hepatitis B virus (HBV)	<b>HEPATITIS C</b> is caused by the hepatitis C virus (HCV)
<b>Statistics</b>	<ul style="list-style-type: none"> <li>Estimated 32,000 new infections in 2006</li> </ul>	<ul style="list-style-type: none"> <li>Estimated 46,000 new infections in 2006</li> <li>Estimated 800,000–1.4 million people with chronic HBV infection</li> </ul>	<ul style="list-style-type: none"> <li>Estimated 19,000 new infections in 2006</li> <li>Estimated 3.2 million people with chronic HCV infection</li> </ul>
<b>Routes of Transmission</b>	<p>Ingestion of fecal matter, even in microscopic amounts, from:</p> <ul style="list-style-type: none"> <li>Close person-to-person contact with an infected person</li> <li>Sexual contact with an infected person</li> <li>Ingestion of contaminated food or drinks</li> </ul>	<p>Contact with infectious blood, semen, and other body fluids, primarily through:</p> <ul style="list-style-type: none"> <li>Birth to an infected mother</li> <li>Sexual contact with an infected person</li> <li>Sharing of contaminated needles, syringes or other injection drug equipment</li> <li>Needlesticks or other sharp instrument injuries</li> </ul>	<p>Contact with blood of an infected person, primarily through:</p> <ul style="list-style-type: none"> <li>Sharing of contaminated needles, syringes, or other injection drug equipment</li> </ul> <p>Less commonly through:</p> <ul style="list-style-type: none"> <li>Sexual contact with an infected person</li> <li>Birth to an infected mother</li> <li>Needlestick or other sharp instrument injuries</li> </ul>
<b>Persons at Risk</b>	<ul style="list-style-type: none"> <li>Travelers to regions with intermediate or high rates of hepatitis A</li> <li>Sex contacts of infected persons</li> <li>Household members or caregivers of infected persons</li> <li>Men who have sex with men</li> <li>Users of certain illegal drugs (injection and non-injection)</li> <li>Persons with clotting-factor disorders</li> </ul>	<ul style="list-style-type: none"> <li>Infants born to infected mothers</li> <li>Sex partners of infected persons</li> <li>Persons with multiple sex partners</li> <li>Persons with a sexually transmitted disease (STD)</li> <li>Men who have sex with men</li> <li>Injection drug users</li> <li>Household contacts of infected persons</li> <li>Healthcare and public safety workers exposed to blood on the job</li> <li>Hemodialysis patients</li> <li>Residents and staff of facilities for developmentally disabled persons</li> <li>Travelers to regions with intermediate or high rates of hepatitis B (HBsAg prevalence of <math>\geq 2\%</math>)</li> </ul>	<ul style="list-style-type: none"> <li>Current or former injection drug users</li> <li>Recipients of clotting factor concentrates before 1987</li> <li>Recipients of blood transfusions or donated organs before July 1992</li> <li>Long-term hemodialysis patients</li> <li>Persons with known exposures to HCV (e.g., healthcare workers after needlesticks, recipients of blood or organs from a donor who later tested positive for HCV)</li> <li>HIV-infected persons</li> <li>Infants born to infected mothers</li> </ul>
<b>Incubation Period</b>	15 to 50 days (average: 28 days)	45 to 160 days (average: 120 days)	14 to 180 days (average: 45 days)
<b>Symptoms of Acute Infection</b>	<p><b>Symptoms of all types of viral hepatitis are similar and can include one or more of the following:</b></p> <ul style="list-style-type: none"> <li>Fever</li> <li>Fatigue</li> <li>Loss of appetite</li> <li>Nausea</li> <li>Vomiting</li> <li>Abdominal pain</li> <li>Clay-colored bowel movements</li> <li>Joint pain</li> <li>Jaundice</li> </ul>		
<b>Likelihood of Symptomatic Acute infection</b>	<ul style="list-style-type: none"> <li>&lt; 10% of children &lt; 6 years have jaundice</li> <li>40%–50% of children age 6–14 years have jaundice</li> <li>70%–80% of persons &gt; 14 years have jaundice</li> </ul>	<ul style="list-style-type: none"> <li>&lt; 1% of infants &lt; 1 year develop symptoms</li> <li>5%–15% of children age 1–5 years develop symptoms</li> <li>30%–50% of persons &gt; 5 years develop symptoms</li> </ul> <p><b>Note:</b> Symptoms appear in 5%–15% of newly infected adults who are immunosuppressed</p>	<ul style="list-style-type: none"> <li>20%–30% of newly infected persons develop symptoms of acute disease</li> </ul>
<b>Potential for Chronic Infection</b>	None	<ul style="list-style-type: none"> <li>Among unimmunized persons, chronic infection occurs in &gt;90% of infants, 25%–50% of children aged 1–5 years, and 6%–10% of older children and adults</li> </ul>	<ul style="list-style-type: none"> <li>75%–85% of newly infected persons develop chronic infection</li> <li>15%–20% of newly infected persons clear the virus</li> </ul>
<b>Severity</b>	Most persons with acute disease recover with no lasting liver damage; rarely fatal	<ul style="list-style-type: none"> <li>Most persons with acute disease recover with no lasting liver damage; acute illness is rarely fatal</li> <li>15%–25% of chronically infected persons develop chronic liver disease, including cirrhosis, liver failure, or liver cancer</li> <li>Estimated 2,000–4,000 persons in the United States die from HBV-related illness per year</li> </ul>	<ul style="list-style-type: none"> <li>Acute illness is uncommon. Those who do develop acute illness recover with no lasting liver damage.</li> <li>60%–70% of chronically infected persons develop chronic liver disease</li> <li>5%–20% develop cirrhosis over a period of 20–30 years</li> <li>1%–5% will die from cirrhosis or liver cancer</li> <li>Estimated 8,000–10,000 persons in the United States die from HCV-related illness per year</li> </ul>
<b>Serologic Tests</b>	<ul style="list-style-type: none"> <li>IgM anti-HAV is recommended for diagnosing acute disease</li> <li>Screening for past infection is generally not recommended</li> </ul>	<ul style="list-style-type: none"> <li>HBsAg is recommended for screening most populations</li> <li>See guidelines for appropriate follow-up testing as indicated in screening recommendations</li> <li>See guidelines for identifying and testing high-risk populations</li> </ul>	<ul style="list-style-type: none"> <li>Screening assay (EIA or CIA) for anti-HCV</li> <li>Verification by an additional more specific assay (e.g., RIBA for anti-HCV) or nucleic acid testing for HCV RNA</li> </ul>

	HEPATITIS A	HEPATITIS B	HEPATITIS C
<b>Treatment</b>	<ul style="list-style-type: none"> <li>No medication available</li> <li>Best addressed through supportive treatment</li> </ul>	<ul style="list-style-type: none"> <li>Acute: No medication available; best addressed through supportive treatment</li> <li>Chronic: Regular monitoring for signs of liver disease progression; some patients are treated with antiviral drugs</li> </ul>	<ul style="list-style-type: none"> <li>Acute: Antivirals and supportive treatment</li> <li>Chronic: Regular monitoring for signs of liver disease progression; some patients are treated with antiviral drugs</li> </ul>
<b>Vaccination Recommendations</b>	<p>Hepatitis A vaccine is recommended for:</p> <ul style="list-style-type: none"> <li>All children at age 1 year</li> <li>Travelers to regions with intermediate or high rates of hepatitis A</li> <li>Men who have sex with men</li> <li>Users of certain illegal drugs (injection and non-injection)</li> <li>Persons with clotting-factor disorders</li> <li>Persons who work with HAV-infected primates or with HAV in a research laboratory</li> <li>Persons with chronic liver disease, including HBV- and HCV-infected persons with chronic liver disease</li> <li>Anyone else seeking long-term protection</li> </ul>	<p>Hepatitis B vaccine is recommended for:</p> <ul style="list-style-type: none"> <li>All infants within 12 hours of birth</li> <li>Older children who have not previously been vaccinated</li> <li>Sex partners of infected persons</li> <li>Persons with multiple sex partners</li> <li>Persons seeking evaluation or treatment for an STD</li> <li>Men who have sex with men</li> <li>Injection drug users</li> <li>Household contacts of infected persons</li> <li>Healthcare and public safety workers exposed to blood on the job</li> <li>Persons with chronic liver disease, including HCV-infected persons with chronic liver disease</li> <li>Persons with HIV infection</li> <li>Persons with end-stage renal disease, including predialysis, hemodialysis, peritoneal dialysis, and home dialysis patients</li> <li>Residents and staff of facilities for developmentally disabled persons</li> <li>Travelers to regions with intermediate or high rates of hepatitis B (HBsAg prevalence of <math>\geq 2\%</math>)</li> <li>Anyone else seeking long-term protection</li> </ul>	<p>There is no hepatitis C vaccine.</p>
<b>Vaccination Schedule</b>	<p>2 doses given 6 months apart</p>	<ul style="list-style-type: none"> <li>Infants and children: 3 to 4 doses given over a 6- to 18-month period depending on vaccine type and schedule</li> <li>Adults: 3 doses given over a 6-month period</li> </ul>	<p>No vaccine available</p>
<b>Testing Recommendations</b>	<p>Pre-vaccination testing (anti-HAV) can be considered for populations that have expected high rates of prior HAV infection, such as:</p> <ul style="list-style-type: none"> <li>Adults born in, or who lived for extensive periods in, regions with intermediate or high rates of hepatitis A</li> <li>Older adolescents and adults of certain races/ethnicities (American Indians, Alaska Natives, Hispanics)</li> <li>Injection drug users</li> </ul> <p>Postvaccination testing is not recommended because of the high rate of vaccine response.</p>	<p>Testing for HBsAg (and additional markers as needed) is recommended for:</p> <ul style="list-style-type: none"> <li>Pregnant women</li> <li>Persons born in regions with intermediate or high rates of hepatitis B (HBsAg prevalence of <math>\geq 2\%</math>)</li> <li>U.S.–born persons not vaccinated as infants whose parents were born in regions with high rates of hepatitis B (HBsAg prevalence of <math>\geq 8\%</math>)</li> <li>Infants born to HBsAg-positive mothers</li> <li>Household, needle-sharing, or sex contacts of HBsAg-positive persons</li> <li>Men who have sex with men</li> <li>Injection drug users</li> <li>Patients with elevated liver enzymes (ALT/AST) of unknown etiology</li> <li>Hemodialysis patients</li> <li>Persons needing immunosuppressive or cytotoxic therapy</li> <li>HIV-infected persons</li> <li>Sources of blood or body fluids involved in potential HBV exposures (e.g., needlesticks)</li> <li>Donors of blood, plasma, organs, tissues, or semen</li> </ul>	<p>Testing is recommended for:</p> <ul style="list-style-type: none"> <li>Current or former injection drug users</li> <li>Recipients of clotting factor concentrates before 1987</li> <li>Recipients of blood transfusions or donated organs before July 1992</li> <li>Long-term hemodialysis patients</li> <li>Persons with known exposures to HCV (e.g., healthcare workers after needlesticks, recipients of blood or organs from a donor who later tested positive for HCV)</li> <li>HIV-infected persons</li> <li>Children born to infected mothers (do not test before age 18 mos.)</li> <li>Patients with signs or symptoms of liver disease (e.g., abnormal liver enzyme tests)</li> <li>Donors of blood, plasma, organs, tissues, or semen</li> </ul>





## Recommended HIV/AIDS, Sexually Transmitted Disease (STD), and Viral Hepatitis Prevention Services, by Risk Population

**Source:** A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States. MMWR 2006;55(RR-16)

Risk population*	Recommended services
<b>High-risk heterosexuals</b> Persons seeking STD evaluation or treatment	Hepatitis B vaccination Testing for human immunodeficiency virus (HIV) infection <sup>†</sup> Testing for syphilis, gonorrhea, and chlamydia, as clinically indicated <sup>§</sup>
Sexually active men not in a long-term, mutually monogamous relationship	Hepatitis B vaccination Annual testing for HIV infection <sup>†¶</sup>
Sexually active women not in a long-term, mutually monogamous relationship	Hepatitis B vaccination** Annual testing for HIV infection <sup>†¶</sup> Annual testing for chlamydia (Note: also recommended for all sexually active females aged <25 yrs) <sup>§</sup>
<b>Men who have sex with men (MSM)</b> All MSM	Hepatitis A vaccination Hepatitis B vaccination**
Sexually active MSM not in a long-term, mutually monogamous relationship	Hepatitis A vaccination Hepatitis B vaccination** Annual testing for HIV infection <sup>†</sup> Annual testing for syphilis, gonorrhea, and chlamydia <sup>§</sup>
<b>Injection-drug users</b>	Hepatitis A vaccination <sup>††</sup> Hepatitis B vaccination Testing for hepatitis C virus infection <sup>§§</sup> Annual testing for HIV infection <sup>†</sup> Substance-abuse treatment <sup>¶¶</sup>

\* Testing for HIV infection, chlamydia, gonorrhea, syphilis, and hepatitis B surface antigen also is recommended for pregnant women (CDC. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR 2006;55[No. RR-14]; CDC. Sexually transmitted diseases treatment guidelines. MMWR 2006;55[No. RR-11]; CDC. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: recommendations of the Advisory Committee on Immunization Practices [ACIP]. Part 1: immunization of infants, children, and adolescents. MMWR 2005;54[No. RR-16]).

<sup>†</sup> CDC. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR 2006;55(No. RR-14).

<sup>§</sup> CDC. Sexually transmitted diseases treatment guidelines 2006. MMWR 2006;55(No. RR-11).

<sup>¶</sup> HIV screening is recommended for all persons aged 13–64 years. Repeat screening is recommended at least annually for persons likely to be at high risk for HIV infection, including MSM or heterosexuals who themselves or whose sex partners have had more than one partner since their most recent HIV test.

\*\* Hepatitis B vaccination is recommended for persons with more than one sex partner during the previous 6 months.

<sup>††</sup> CDC. Prevention of hepatitis A through active or passive immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2006;55(No. RR-7).

<sup>§§</sup> CDC. Recommendations for prevention and control of hepatitis C virus (HCV) infection and HCV-related chronic disease. MMWR 1998;47(No. RR-19). Recommended frequency of testing for hepatitis C virus infection has not been determined.

<sup>¶¶</sup> CDC. Substance abuse treatment for injection drug users: a strategy with many benefits. Atlanta, GA: US Department of Health and Human Services, CDC; 2002. Available at <http://www.cdc.gov/idu/facts/treatment.htm>.



South Carolina Department of Health and Environmental Control  
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# Appendix C

Viral Hepatitis Survey

## 2009 Viral Hepatitis Resource Inventory Survey

The following survey is in an electronic format. Please make sure you click in the gray space to answer each question. When you complete the survey, save and email to Elona Rhame at [rhamele@dhec.sc.gov](mailto:rhamele@dhec.sc.gov)

Name of Agency/Site: \_\_\_\_\_

**Please check the organization type that best describes your agency (select one):**

- |  |  |
|--|--|
| <input type="checkbox"/> Alcohol and Other Drugs (AOD) | <input type="checkbox"/> Local Health Department       |
| <input type="checkbox"/> Corrections                   | <input type="checkbox"/> Private Physician             |
| <input type="checkbox"/> Community Health Center       | <input type="checkbox"/> Other (please specify): _____ |
| <input type="checkbox"/> HIV Prevention Provider / ASO |  |

**Please list all the counties in which your agency/site provides viral hepatitis services, (i.e., testing/screening, vaccination, education, treatment, etc.) \_\_\_\_\_**

### **I. PROGRAM ADMINISTRATION**

**A. Does your agency/site conduct the following activities?:**

- Coordination of or participation in hepatitis prevention activities with other internal/external partners.  
 Yes  No
- Integration of adult viral hepatitis services into existing programs.  Yes  No
- Seeking funds to support unmet viral hepatitis prevention or care needs.  Yes  No

### **II. VACCINATION** –adult hepatitis vaccination in accordance with Advisory Committee on Immunization Practices (ACIP)

**B. Does your agency/site have access to free (Section 317) adult hepatitis B vaccine?**  Yes  No

**C. Does your agency/site administer Hepatitis B vaccinations to high-risk adults?**

- Yes; please approximate the number of hepatitis B vaccinations administered to high-risk adults in 2008: \_\_\_\_\_
- No; would your site provide the hepatitis B vaccinations if you had free vaccine?  
 Yes  No  N/A; we do not have the staff/capacity to administer this service.

### **III. PROFESSIONAL TRAINING** –professional training on topics related to viral hepatitis.

**D. Has staff at your agency/site received training on topics related to viral hepatitis services?**

- Yes  No

**E. Would your agency/site be interested in receiving training on topics related to viral hepatitis services?**  Yes  No

**F. Has staff at your agency/site received training on integration of viral hepatitis services into existing program(s)?**  Yes  No

**G. Would your agency/site be interested in receiving training on integration of viral hepatitis services into existing program(s)?**  Yes  No

**IV. GENERAL EDUCATION** –promoting general awareness about viral hepatitis prevention to persons in your service area(s).

**H. What type(s) of general education services related to viral hepatitis prevention do you provide to persons in your service area?** (Check all that apply)

- Information on agency website
- Brochure distribution
- World Hepatitis Day activities
- Responding to questions from the public
- None of the above

**V. Counseling, Testing and Referral** –providing CTR for adult viral hepatitis in accordance with CDC recommendations.

**I. If a person presents with risk factors for hepatitis C virus (HCV), do you:**

- provide on-site prevention counseling
- provide on-site testing;
  - Approximately how many tests did your agency administer in 2008? \_\_\_\_\_
  - Is this test provided regardless of a person’s ability to pay?  Yes  No
- refer persons elsewhere for HCV testing
- None of the above

**J. If your agency/site received funds to provide free HCV testing/screening, would more testing/screening occur within your agency?**  Yes  No

**VI. Medical Management** –providing access to medical care services.

**K. Does your agency/site provide medical care/treatment to persons living with chronic viral hepatitis?**  Yes  No

**L. Does your site offer support services for persons seeking or undergoing treatment for chronic viral hepatitis?**  Yes  No

**M. If you answered No to either of the questions above, do you know of other providers who accept referrals of HCV-positive clients?**  Yes  No

**VII. SURVEILLANCE** –supporting the efforts of surveillance activities.

**N. Does your site monitor the number of Hep C tests administered?**  Yes  No

**O. Does your site monitor the number of positive Hep C tests identified, i.e., positivity rate?**  
 Yes  No

**P. Does your site track/follow-up referrals made to other providers to assure that client is linked to care?**  
 Yes  No

**VIII. CHALLENGES/BARRIERS**

**Q. What are the greatest challenges/barriers in providing hepatitis services to adults in SC?**  
\_\_\_\_\_

Thank you for your participation in this survey. Your feedback is important to us. Please return completed survey to Elona Rhame at [rhamele@dhec.sc.gov](mailto:rhamele@dhec.sc.gov) no later than May 22, 2009

## 2009 Viral Hepatitis Resource Inventory Survey

The following report summarizes the responses from the 2009 Viral Hepatitis Resource Inventory Survey. A total of **30** surveys were completed and returned through July 10, 2009.

Of the 30 total respondents, the organization type breakdown was as follows:

Alcohol and Other Drug (AOD)	10 (33%)	Local Health Department	8 (27%)	*One response per PH Region
Corrections	0	Private Physician	0	
Community Health Center	4 (13%)	Other	1 (3%)	
HIV Prevention Provider / ASO	7 (23%)			

<b>PROGRAM ADMINISTRATION</b>	<b>Yes</b>	<b>No</b>	<b>Missing/NA</b>
Does your agency conduct the following activities:			
Coordination/participation in hepatitis prevention activities	57%	43%	---
Integration of adult viral hepatitis services into existing programs	63%	37%	---
Seeking funds to support unmet viral hepatitis prevention care needs	20%	73%	7%
<b>VACCINATION</b>	<b>Yes</b>	<b>No</b>	<b>Missing/NA</b>
Does agency/site have access to <u>free</u> (Section 317) adult hepatitis B vaccine?	37%	53%	10%
Does agency/site administer Hepatitis B vaccinations to high-risk adults?	40%	30%	30%
<i>Among the sites who administer Hepatitis B vaccines to high-risk adults, 7 approximated the number administered in 2008. 4 (57%) approximated having administered &lt;100 and 3 (43%) approximated administering 100 or more in 2008.</i>			
<i>Among the sites who do not administer Hepatitis B vaccines to high-risk adults, 3 (38%) would provide the vaccination if they had access to free vaccine and 5 (63%) said they did not have staff/capacity to administer this service.</i>			
<b>PROFESSIONAL TRAINING</b>	<b>Yes</b>	<b>No</b>	<b>Missing/NA</b>
Has staff at agency/site received training on TOPICS related to viral hepatitis services?	60%	30%	10%
Would your agency/site be interested in receiving training on TOPICS related to viral hepatitis services?	93%	3%	3%
Has staff at agency/site received training on integration of viral hepatitis services into existing programs?	43%	57%	---
Would your agency/site be interested in receiving training on integration of viral hepatitis services into existing programs?	80%	17%	3%
<b>GENERAL EDUCATION</b>	<b>Yes</b>		
What types of general education services related to viral hepatitis prevention do you provide:			
Information on agency website	7%		
Brochure distribution	63%		
World Hepatitis Day activities	17%		
Responding to questions from public	60%		
None of the above	23%		

<b>COUNSELING, TESTING AND REFERRAL</b>	<b>Yes</b>		
If a person presents with risk factors for hepatitis C virus (HCV):			
Do you provide on-site prevention counseling?	57%		
Do you provide on-site testing?	50%		
<i>Among the sites that provide on-site testing, 8 approximated the number administered in 2008. Five sites reported providing &lt;200 and three sites reported providing 250 or more tests (ranging from 250 to 514).</i>			
<i>Among the sites that provide on-site testing, 13 (87%) responded that they provide the test regardless of the person's ability to pay.</i>			
Do you refer persons elsewhere for HCV testing?	53%		
Did not provide on-site prevention, counseling or testing, or referral?	10%		
If your site received funds to provide free HCV testing/screening, would more testing/screening occur?	60%	20%	20%
<b>MEDICAL MANAGEMENT</b>	<b>Yes</b>	<b>No</b>	<b>Missing/NA</b>
Does your site provide medical care/treatment to persons living with chronic viral hepatitis?	10%	90%	---
Does your site offer support services for persons seeking or undergoing treatment for chronic viral hepatitis?	27%	73%	---
Among sites that answered No to both questions above, 19 (63%) responded that they know of other providers in their area who accept referrals of HCV-positive clients.			
<b>SURVEILLANCE</b>	<b>Yes</b>	<b>No</b>	<b>Missing/NA</b>
Does your site monitor the number of Hep C tests administered?	23%	67%	10%
Does your site monitor the number of positive Hep C tests identified, i.e., positivity rate?	27%	67%	7%
Does your site track/follow-up referrals made to other providers to assure that client is linked to care?	57%	33%	10%