

**Division of Viral Hepatitis (DVH) Strategic Plan, 2016–2020:  
Bringing Together Science and Public-Health Practices for the Elimination of Viral Hepatitis**



## Division of Viral Hepatitis (DVH) Strategic Plan, 2016–2020

Viral hepatitis takes a tremendous toll on the lives of many persons in the United States and globally, particularly hepatitis B virus (HBV) and hepatitis C virus (HCV) infections. In the United States, as many as 5.7 million persons are living with HBV or HCV infection, which together are major causes of chronic liver disease and liver cancer. At least half of the persons living with hepatitis B or hepatitis C do not know they are infected. Only through testing and knowledge of infection status can these persons receive the care and treatment that can vastly improve health outcomes. Of particular concern is the annual number of HCV-associated deaths. In 2013, the number of HCV-associated deaths exceeded the number of deaths from all other nationally notifiable diseases combined. This increased mortality is occurring at a time when all-oral curative therapies for HCV are available. Licensed therapies are capable of curing more than 90% of HCV-infected persons who complete treatment, yet without treatment, one in three persons currently living with hepatitis C would die of HCV-related complications. Also concerning is the more than 150% increase in the number of new HCV infections reported from 2010–2013, mostly among adolescents and young adults. In 2013 and for the first time since 1990, the number of new cases of HBV infections rose as a result of increased transmission among persons who inject drugs (PWID) and those with other HBV-related risks. Despite recommendations for routine screening of pregnant women for HBV and hepatitis B vaccination of infants beginning at birth, cases of mother-to-child transmission of HBV continue to occur. Of infants infected at the time of birth, 90% develop chronic HBV infection. Left undiagnosed and untreated, nearly one in four of these infants will develop serious liver problems, including liver cancer. Similar to other infections, certain U.S. populations with chronic viral hepatitis are affected disproportionately. For example, two of three Asian Americans are unaware they are living with hepatitis B, and while Asian Americans represent less than 5% of U.S. population, they are estimated to account for more than one half of all cases of chronic HBV infection. With respect to hepatitis C, at least 50% of persons born 1945-1965 do not know they are living with HCV infection; African Americans comprise less than 11% of the population born 1945-1965, but 25% are estimated to be infected with HCV. Of particular concern are recent data that show certain groups are disproportionately dying with viral hepatitis, including Asians/Pacific Islanders and persons aged 55-64 years with hepatitis B, and American Indians/Alaska Natives and persons aged 55-64 years with hepatitis C. Persons born during 1945-1965, most of whom were infected before HCV was discovered in 1989, account for more than 70% of all HCV-associated deaths.

Worldwide, approximately 390 million persons are living with HBV or HCV infection; 1.3 million persons lose their life to these diseases each year. The global hepatitis challenges are similar to those faced in the United States, namely bringing together the highly effective vaccinations, testing, care, and treatment necessary to prevent new infections and unnecessary deaths. Constrained resources for testing and treatment, lack of provider and public awareness about viral hepatitis, limited capacity to diagnose and treat viral hepatitis, and continued

transmission of HBV and HCV through unsafe injection practices also challenge global and U.S. efforts to prevent new infections and reduce viral hepatitis-related morbidity and mortality.

CDC's Division of Viral Hepatitis (DVH) within the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) aims to prevent viral hepatitis and reduce rates of morbidity and mortality associated with these infections, protecting persons at greatest risk from becoming infected and helping those who are living with viral hepatitis infection lead healthy, productive lives. This document outlines the Division's four strategic imperatives (I through IV) for accomplishing these goals and achieving its mission to bring together science and public health practices to eliminate viral hepatitis. To provide additional detail regarding the way in which the Division will carry out these imperatives and measure success during the 5-year lifespan of this plan, each imperative is accompanied by objectives, strategies, measures, and targets.

The Division's plan addresses many of the goals and strategies of the 2014 *HHS Action Plan for Viral Hepatitis Prevention, Care, and Treatment* including 1) decreasing the number of new hepatitis B and hepatitis C infections and the number of people living with undiagnosed chronic viral hepatitis (especially in populations disproportionately affected) and 2) decreasing illness and deaths by eliminating vaccine-preventable viral hepatitis and identifying infected persons early and linking them to care and treatment. The DVH Strategic Plan further aligns with the NCHHSTP strategic plan goals of decreasing disease incidence, morbidity and mortality, and health disparities (see <http://www.cdc.gov/nchhstp/strategicpriorities/>). Healthy People 2020 Immunization and Infectious Disease objective (IID) and NCHHSTP Strategic Plan indicators have been incorporated into this Plan, and expanded upon. The Plan was crafted following the NCHHSTP guiding principal of high impact prevention and developed in line with the strategies set forth by the Center. The NCHHSTP strategies serve as guiding principles of this Plan and include: 1) targeting, prioritizing, and improving policies and programs using data from surveillance, modeling, and other programs, as well as results from evaluation and research efforts; 2) addressing critical scientific gaps by identifying, developing, and evaluating interventions, policies, and technologies; 3) increasing knowledge of HIV, viral hepatitis, STDs, and TB and promoting adoption of behaviors that prevent infection and associated morbidity and mortality; 4) maximizing opportunities afforded by the healthcare system for preventing infections, morbidity, and mortality; 5) promoting better collaboration across divisions in design and implementation of surveillance, research, communication, and prevention programs to support service

### Division of Viral Hepatitis Strategic Plan

**Vision:** To eliminate viral hepatitis in the United States and worldwide

**Mission:** To bring together science and public-health practices to eliminate viral hepatitis

**Goals:** Decrease incidence and prevalence of viral hepatitis

Decrease morbidity and mortality from viral hepatitis

Reduce viral hepatitis-related health disparities

integration and utilizing Center and partner resources most effectively; and 6) supporting excellence in science and programs by ensuring efficient business and scientific administration, implementing effective communication and policies, enhancing skills of current staff, and developing the NCHHSTP public health workforce.

## DVH Strategic Plan 2016–2020: Strategic Imperatives and Objectives

Strategic Imperatives (SI)	I. Assure vulnerable populations are vaccinated to prevent viral hepatitis	II. Assure early detection and response to stop transmission of hepatitis B virus (HBV) and hepatitis C virus (HCV)	III. Assure persons living with HBV and HCV are identified and linked to recommended care and treatment services	IV. Act globally to prevent, detect, and control viral hepatitis
Objectives	<ul style="list-style-type: none"> <li>• Optimize hepatitis A and hepatitis B vaccination strategies among vulnerable populations.</li> <li>• Promote development and implementation of new or improved viral hepatitis vaccines.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce HBV and HCV transmission associated with drug use.</li> <li>• Protect healthcare workers and patients from HBV and HCV infections.</li> <li>• Improve detection and reporting of new HBV and HCV infections including the use of novel virologic technologies and studies to investigate transmission.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase testing by raising healthcare-provider and public awareness of viral hepatitis and the importance of testing.</li> <li>• Increase access to testing, care, and treatment for persons at risk for, or living with, viral hepatitis.</li> <li>• Implement strategies for preventing perinatal transmission of HBV and HCV.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide support and assistance to the World Health Organization in the achievement of goals to eliminate HBV and HCV as global public health threats.</li> <li>• Assist priority countries to develop, implement, monitor, and evaluate viral hepatitis-related guidelines, policies, plans, and programs</li> <li>• Develop, implement, and evaluate <u>innovative</u> viral hepatitis detection, prevention, care, and treatment strategies.</li> </ul>

## **Strategic Imperative I:**

### **Assure Vulnerable Populations Are Vaccinated to Prevent Viral Hepatitis**

With progressive infant hepatitis A vaccination recommendations since 1996 and universal infant vaccination since 2006, vaccination rates and evidence of vaccine-induced immunity in young patients have increased over the past decade. Despite this progress, rates of hepatitis A vaccination coverage remain lower than rates of other childhood vaccines recommended by the Advisory Committee on Immunization Practices (ACIP). In addition, although adults who fall into a high-risk group are recommended to receive vaccine, those at lower risk often are not vaccinated and remain susceptible to infection. Since 2006, hepatitis A vaccination has been recommended for all children at age 1 year, persons who are at increased risk for infection, persons who are at increased risk for complications from hepatitis A, and any person wishing to obtain immunity. The hepatitis B vaccine also has been successfully integrated into the childhood vaccination schedule, contributing to a 95% decline in the incidence of acute hepatitis B in children and adolescents aged  $\leq 19$  years from 2000 to 2013. The number of reported cases of acute hepatitis B among all age groups decreased by 62% from 2000 to 2013. Currently, approximately 95% of new HBV infections occur among unvaccinated adults with behavioral risk factors (e.g., injection-drug use and unsafe sexual activity) and household contacts of HBV-infected persons.

Hepatitis B can be transmitted through sexual contact. Because an estimated 80%–95% of sexually transmitted diseases (STDs) are diagnosed in medical settings other than STD clinics, primary-care and specialty medical-care providers should provide hepatitis B vaccination whenever indicated or requested as part of regular preventive care. In these settings (e.g., physician's offices, family planning clinics, community health centers, liver disease clinics, and travel clinics), ACIP recommends that providers implement standing orders to identify adults recommended for hepatitis B vaccination and administer vaccination as part of routine services. For example, as recommended by ACIP for men who have sex with men, the hepatitis A and B vaccines can be administered separately or as a combination vaccine. Furthermore, because HBV transmission associated with injection-drug use has increased in recent years, routine hepatitis B vaccination should be broadly implemented in drug treatment and harm-reduction settings.

The following are examples of key actions DVH plans to undertake during 2016–2020 to achieve its strategic imperative of assuring that vulnerable populations are vaccinated to prevent viral hepatitis: updating national recommendations for hepatitis A and hepatitis B vaccination; assisting with the implementation of strategies to increase vaccination coverage, particularly hepatitis B vaccination of newborns beginning with a birth-dose and adults at risk; and, promoting the appropriate use of new vaccines.

## **Strategic Imperative II:**

### **Assure Early Detection and Response to Stop Transmission of HBV and HCV**

National surveillance and other data obtained from select funded sites, national surveys, and vital statistics enable the detection of trends in viral hepatitis infection, thus serving as the foundation for informing response and prevention initiatives and prioritizing those populations in greatest need for intervention. Surveillance data can help identify populations disproportionately affected by viral hepatitis due to behavioral and demographic risk factors (e.g., injecting drugs, belonging to a particular birth cohort, receiving invasive health procedures, and working in particular health-care settings), largely influencing viral hepatitis recommendations and policies. Surveillance data for recent years have revealed that new viral hepatitis infections are on the rise: rates of acute HCV increased during 2009–2012, and increasingly, CDC is receiving reports of cases occurring among young PWID living in rural areas. Recently, hepatitis B surveillance data demonstrated that although the number of acute cases of HBV infection decreased by 9.5% during 2009–2013, increases were reported in Florida, Indiana, Kentucky, Massachusetts, Mississippi, Missouri, Ohio, Tennessee, and West Virginia during this time period; in addition, a national increase of 5.4% occurred from 2012 to 2013. These data signal the need for targeted interventions for those Americans at highest risk.

In the United States, although surveillance infrastructure is in place for reporting both acute and chronic viral hepatitis infections, reporting remains incomplete; only 15 states submitted data for both acute and chronic hepatitis A, B, and C cases for inclusion in the CDC national surveillance report for 2013. Further, data on case reports of chronic HBV and past or present HCV infections, which account for the greatest burden of disease, were approved for publication by only 17 states and 16 states, respectively, in 2013. As noted in a report from the Institute of Medicine, surveillance capacity to monitor viral hepatitis is limited at the state and local level, resulting in under-reporting and variable data quality.

The following are examples of key actions DVH plans to undertake during 2016–2020 to achieve its strategic imperative of assuring early detection and response to stop transmission of HBV and HCV: assisting state and local health authorities to improve detection of new infections, particularly in those states that have not yet reached the HP2020 target for incident HBV and HCV infection among adults; facilitating state and local health department reporting of surveillance data for select populations (e.g., racial/ethnic populations, persons of low socioeconomic status, and PWID); developing technical assistance and guidance documents regarding molecular bioinformatics and information technologies for the detection of viral hepatitis transmission; analyzing HBV- and HCV-related data from existing health systems/clinical health records and disseminating to state and local health departments; and guiding the implementation of a package of interventions to prevent HBV and HCV transmission.

## **Strategic Imperative III:**

### **Assure Persons Living with Viral Hepatitis Are Identified and Linked to Recommended Care and Treatment Services**

As many as 5.7 million persons are living with hepatitis B or hepatitis C, half of whom do not know they are infected and therefore do not receive needed care and treatment services. In the case of hepatitis C in particular, treatment can cure persons of their infection. Persons infected with either HBV or HCV can have clinically silent infections for decades until they develop liver damage, cirrhosis, liver failure, or liver cancer. CDC and USPSTF have issued recommendations for identifying and managing persons with hepatitis B, to include testing of persons born in Asia, Africa, the Pacific Islands, or countries in other regions with moderate to high rates of hepatitis B. Testing is also recommended for persons born in the United States, including men who have sex with men and persons who were not vaccinated at birth and have at least one parent born in Asia or other areas with high rates of hepatitis B.

Mother-to-child transmission of hepatitis B continues to occur, placing infants at high risk for HBV-related liver cancer later in life. To stop transmission, HBV testing is recommended for all pregnant women, and hepatitis B vaccine-based strategies are recommended for their newborns beginning immediately after delivery. CDC has published cost-effectiveness data demonstrating the value of screening and treating HBV-infected women to prevent perinatal HBV transmission, and CDC-supported public health programs provide case-management services to ensure mothers and infants receive these interventions.

To increase identification of persons with HCV infection in the United States, CDC and USPSTF recommend one-time HCV testing for persons born during 1945–1965; both CDC and USPSTF also recommend screening of persons at high risk for HCV infection. HCV testing linked to care and treatment is cost-effective, with health benefits comparable to other routine preventive health services. CDC has evaluated strategies that support implementation of HBV and HCV testing and linkage to care. Specifically, in 2012, DVH funded demonstration sites to test persons for hepatitis C and refer HCV-infected persons to appropriate care and treatment. The success achieved through these projects prompted CDC to fund additional programs in FY 2014 to strengthen the public health and clinical care capacity to track, diagnose, and cure HCV infection. New resources will enable CDC to improve hepatitis C testing, care, and treatment to prevent HCV-related mortality and to develop new prevention strategies to reduce HCV transmission by leveraging FDA-licensed, safe, and curative therapies. More than one third of persons living with hepatitis C are expected to die of HCV-related complications that could be avoided with care and treatment. CDC estimates that more than 320,000 lives could be saved with a modest increase in capacity to improve HCV testing, linkage to care, and treatment.

The following are examples of key actions DVH plans to undertake during 2016–2020 to achieve its strategic imperative of assuring persons living with viral hepatitis are identified and linked to recommended care and treatment services: expanding and enhancing online viral hepatitis training resources; continuing to support viral hepatitis prevention coordinators; continuing to support demonstration projects to develop best practices for implementing testing and linkage to care and treatment recommendations; collaborating with partners to develop and test communication strategies for reaching persons with viral hepatitis-related health disparities; developing strategies and tools to ensure high-quality care for patients living with viral hepatitis; using electronic health record information to improve post-vaccination serologic testing and enhance referral of children with perinatal HBV infection; developing and implementing effective models of care for select populations, including those in certain programs, settings, and facilities (e.g., substance use disorder treatment programs, emergency departments, and prisons and jails); and analyzing data from a variety of sources, including from national and local surveys, vital records, and health systems. The data will be used to monitor progress toward national goals as well as to assist state and local partners to evaluate program activities (including assessing HBV infection among persons of Asian and African descent, assessing HCV infection among persons co-infected with HIV and persons who are homeless or incarcerated, and assessing other factors such as socioeconomic status that reflect health disparities) and to track the cascade of testing, care, and treatment.

## **Strategic Imperative IV:**

### **Act Globally to Prevent, Detect, and Control Viral Hepatitis**

The core of DVH’s global work is in lending technical assistance to governmental and non-governmental entities as they develop hepatitis-related prevention policies and programs, respond to outbreaks, develop viral hepatitis surveillance, and monitor and evaluate these activities. For these efforts, DVH works with country-specific and global counterparts and partners, including local Ministries of Health and/or National Centers for Disease Control, other U.S. CDC programs, the United States Agency for International Development, the United States Department of State, and the World Health Organization (WHO). At the global level, DVH primarily works with WHO to develop strategies, policies, and guidelines for viral hepatitis prevention and control. DVH also supports staff at WHO headquarters to lead the WHO Global Hepatitis Program, which provides leadership in viral hepatitis control programs at the global, regional, and national levels. In recent years, CDC has responded to requests for assistance from countries experiencing a large burden of viral hepatitis, including China, Egypt, Georgia, India, Pakistan, and Vietnam. In so doing, CDC not only supports the country program, but also identifies best practices in viral hepatitis prevention and control that can be used in other countries facing high burdens of viral hepatitis and to enhance prevention efforts in the United States.



The following are examples of key actions DVH plans to undertake during 2016–2020 to achieve its strategic imperative of acting globally to prevent, detect, and control viral hepatitis: providing subject-matter expertise for the development of global guidelines and policy documents; providing technical assistance for the development and implementation of national plans of action and viral hepatitis control strategies, including model elimination programs; assisting countries with assessing the burden of viral hepatitis transmission and disease, evaluating the quality of viral hepatitis testing in reference laboratories and at other testing sites; and providing technical assistance on the design and implementation of measures to control viral hepatitis outbreaks and prevent future transmission.

# Roadmap for Achieving DVH's Strategic Imperatives, 2016–2020

## DVH Strategic Imperative I:

### Assure Vulnerable Populations Are Vaccinated to Prevent Viral Hepatitis

Objectives	Strategies	Measures and Targets
<ul style="list-style-type: none"> <li>• <b>Optimize hepatitis A and hepatitis B vaccination strategies among vulnerable populations.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Conduct studies to guide revisions of CDC vaccine recommendations.</li> <li>• Inform changes in vaccination practices by updating Advisory Committee on Immunization Practices (ACIP)/CDC recommendations for hepatitis A and hepatitis B vaccination, as appropriate.</li> <li>• Promote implementation of new vaccine recommendations through provider education, strategic partnerships, and other measures.</li> <li>• Use surveillance data and other strategic information to detect populations at risk, gaps in vaccination coverage, and loss of immunoprotection.</li> </ul>	<p><b>Measure:</b> IID-7.9: Children receiving a birth dose of hepatitis B vaccine within 3 days of birth (percentage) [NIS]  <b>Target:</b> 85  <b>Baseline:</b> 72 (2014)</p> <p><b>Measure:</b> Increase hepatitis B vaccine coverage among persons who inject drugs (percentage)  <b>Target:</b> TBD  <b>Baseline:</b> TBD</p> <p><b>Measure:</b> IID-23: New cases of hepatitis A (per 100,000 population)  <b>Target:</b> 0.3 [NNDSS]  <b>Baseline:</b> 0.5 (2012)</p> <p><b>Measure:</b> IID-1.3: New cases of hepatitis B (per 100,000, 2-18 years)  <b>Target:</b> 0 [NNDSS]  <b>Baseline:</b> 0.02 (2012)</p> <p><b>Measure:</b> IID15.3: Healthcare personnel vaccinated against hepatitis B (percentage)  <b>Target:</b> 90 [NHIS]  <b>Baseline:</b> TBD</p>

## DVH Strategic Imperative I:

### Assure Vulnerable Populations Are Vaccinated to Prevent Viral Hepatitis

Objectives	Strategies	Measures and Targets
<ul style="list-style-type: none"><li>• <b>Promote development and implementation of new or improved viral hepatitis vaccines.</b></li></ul>	<ul style="list-style-type: none"><li>• Promote development of a hepatitis C vaccine by providing technical expertise and strategic information.</li><li>• Following licensure, incorporate newly licensed viral hepatitis vaccines in program guidance and national recommendations.</li><li>• Complete studies of hepatitis E vaccine candidates and develop partnerships for further vaccine study, possible licensure, and production.</li></ul>	<p><b>Measure:</b> Number of new partnerships formed towards new vaccine development</p> <p><b>Target:</b> At least one</p> <p><b>Measure:</b> Update CDC guidelines within one year of licensure of new viral hepatitis vaccines</p>

## DVH Strategic Imperative II:

### Assure Early Detection and Response to Stop Transmission of Hepatitis B virus (HBV) and Hepatitis C Virus (HCV)

Objectives	Strategies	Measures and Targets
<ul style="list-style-type: none"> <li>• <b>Reduce HBV and HCV transmission associated with drug use.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Increase identification of persons with new HCV and HBV infection, assess indicators of high-risk behaviors, and evaluate reinfection after viral clearance by gathering and analyzing multi-sectoral (e.g., clinical, public health, and law enforcement) data.</li> <li>• Participate in patient-centered outcomes research to identify strategies that promote treatment adherence and completion among persons who inject drugs (PWID).</li> <li>• Conduct prevention research to demonstrate how to locate, refer for care, and provide a comprehensive set of interventions for PWID, including broad access to HCV testing and treatment (decrease HCV prevalence) together with opioid substitution therapy and adequate access to syringe service programs to sustain prevention gains.</li> <li>• Promote access to HCV testing and HBV testing in substance use disorder treatment programs, emergency departments, correctional facilities, and other settings.</li> <li>• Prepare and disseminate programmatic guidance and associated implementation tools to assist state and local health departments and other partners in preventing the spread of HCV.</li> <li>• Assist the Institute of Medicine, HHS, other national organizations, and state and tribal health agencies to set targets and develop plans for reductions in HBV and HCV incidence.</li> </ul>	<p><b>Measure:</b> NCHHSTP 1.1b: New hepatitis B infections in adults (per 100,000 population, 19+ years) <b>Target:</b> 0.5 [NNDSS] <b>Baseline:</b> 1.26 (2013)</p> <p><b>Measure:</b> IID-26: New cases of hepatitis C (per 100,000 population) <b>Target:</b> 0.25 [NNDSS] <b>Baseline:</b> 0.6 (2012)</p>

## DVH Strategic Imperative II:

### Assure Early Detection and Response to Stop Transmission of Hepatitis B virus (HBV) and Hepatitis C Virus (HCV)

Objectives	Strategies	Measures and Targets
<ul style="list-style-type: none"> <li>• <b>Protect healthcare workers and patients from HBV and HCV infections.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Improve identification and investigation of healthcare-associated viral hepatitis.</li> <li>• Build partnerships to promote implementation of prevention strategies in settings associated with increased rates of HBV and HCV transmission (e.g., dialysis facilities).</li> <li>• Lead or participate in updating guidelines for management of HCV exposures in healthcare settings.</li> </ul>	<p><b>Measure:</b> States that routinely follow-up on reported acute HCV cases to identify possible healthcare-associated hepatitis transmission events (number)  <b>Target:</b> 50 (plus Washington, DC)  <b>Baseline:</b> 5 (TBC)</p>
<ul style="list-style-type: none"> <li>• <b>Improve detection and reporting of new HBV and HCV infections, including the use of novel virologic technologies and studies to investigate transmission.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Revise and implement case definitions that improve reporting of new or recent HCV and HBV infection.</li> <li>• Build capacity for states to collect and report a core set of surveillance data, particularly states with rising rates of HCV transmission.</li> <li>• Improve detection of HBV and HCV among risk populations, including pregnant women and their newborns.</li> <li>• Apply advanced molecular, computational, and information technologies for surveillance.</li> <li>• Strengthen laboratory capacity of state and local health departments for outbreak investigations.</li> </ul>	<p><b>Measure:</b> States actively investigating and reporting viral hepatitis cases to CDC (number)  <b>Target:</b> 15 (plus Washington, DC)  <b>Baseline:</b> 5 (TBC)</p> <p><b>Measure:</b> States sharing molecular epidemiologic data with CDC (number)  <b>Target:</b> 8  <b>Baseline:</b> 0</p>

## DVH Strategic Imperative III:

### Assure Persons Living with Viral Hepatitis Are Identified And Linked to Recommended Care and Treatment Services

Objectives	Strategies	Measures and Targets
<ul style="list-style-type: none"> <li>• <b>Increase testing by raising health-professional and public awareness of viral hepatitis and the importance of testing.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Educate primary-care and other providers to assure delivery of recommended care and treatment services.</li> <li>• Educate the public about viral hepatitis to facilitate patient requests for recommended interventions during medical visits.</li> <li>• Implement clinical decision tools, standing orders, models of care, and other interventions that prompt and facilitate service delivery.</li> </ul>	<p><b>Measure:</b> NCHHSTP 2.4.b: Persons aware of their hepatitis B infection (percentage)  <b>Target:</b> 66 [NHANES]  <b>Baseline:</b> 33 (2009)</p> <p><b>Measure:</b> NCHHSTP 2.4.c/IID-27: Persons with hepatitis C who are aware of their infection (percentage)  <b>Target:</b> 66 [NHANES]  <b>Baseline:</b> 49 (2002-2011)</p> <p><b>Measure:</b> Asian Americans who report receiving a blood test for HBV (percentage)  <b>Target:</b> ≥45 [NHIS]  <b>Baseline:</b> 26 (2013)</p> <p><b>Measure:</b> Persons born 1945-1965 who report receiving a test for hepatitis C virus (HCV) (percentage)  <b>Target:</b> 25 [NHIS]  <b>Baseline:</b> 12 (2013)</p> <p><b>Measure:</b> Primary-care providers ordering viral hepatitis testing for patients for whom testing is recommended (percentage)  <b>Target:</b> TBD  <b>Baseline:</b> TBD</p>

## DVH Strategic Imperative III:

### Assure Persons Living with Viral Hepatitis Are Identified And Linked to Recommended Care and Treatment Services

Objectives	Strategies	Measures and Targets
<ul style="list-style-type: none"> <li>• <b>Increase access to testing, care, and treatment services for persons at risk for, or living with, viral hepatitis.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Promote implementation of CDC/USPSTF recommendations for HCV and hepatitis B virus (HBV) testing as routine clinical preventive services for marginalized populations.</li> <li>• Review and update CDC recommendations to assure at-risk populations have access to HBV and HCV testing with linkages to care and treatment.</li> <li>• Reduce health disparities by targeting populations in need of enhanced interventions based on epidemiologic, socio-economic status, and other factors.</li> <li>• Conduct prevention research to inform clinical service, health insurance, and public health policies; identify and disseminate best practices; and, evaluate program effectiveness.</li> <li>• Collect data from a variety of sources to monitor the cascade of testing, care, and treatment services for persons living with viral hepatitis.</li> </ul>	<p><b>Measure:</b> Persons who are aware that they are living with HBV or HCV who are linked to care (percentage)  <b>Target:</b> ≥50 (TBC)  <b>Baseline:</b> TBD</p> <p><b>Measure:</b> NCHHSTP 2.1.a: Deaths from viral hepatitis B  <b>Target:</b> 1,754 (NNDSS)  <b>Baseline:</b> 1,873 (2013)</p> <p><b>Measure:</b> NCHHSTP 2.1.b: Deaths from viral hepatitis C  <b>Target:</b> 16,370 (NNDSS)  <b>Baseline:</b> 19,368 (2013)</p>
<ul style="list-style-type: none"> <li>• <b>Implement strategies for preventing perinatal transmission of HBV and HCV.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Develop guidance for maternal screening and antiviral prophylaxis to prevent hepatitis B vaccine failures among newborns.</li> <li>• Develop policies and partnerships to improve clinical management of HBV-infected pregnant women and patient navigation services for HBV-exposed newborns.</li> </ul>	<p><b>Measure:</b> IID-24: Chronic perinatal hepatitis B virus infections (number, 1–24 months)  <b>Target:</b> 400 [NVSS-N; PHBPP]  <b>Baseline:</b> 652 (2013)</p> <p><b>Measure:</b> States reporting perinatal HCV cases to CDC using CSTE case definition (number)  <b>Target:</b> 25 states  <b>Baseline:</b> 0</p>

## DVH Strategic Imperative III:

### Assure Persons Living with Viral Hepatitis Are Identified And Linked to Recommended Care and Treatment Services

Objectives	Strategies	Measures and Targets
<ul style="list-style-type: none"><li>• <b>Implement strategies for preventing perinatal transmission of HBV and HCV. (Continued)</b></li></ul>	<ul style="list-style-type: none"><li>• Develop and implement novel strategies to detect and deliver recommended services to women at highest risk for perinatal HBV transmission and their newborns.</li><li>• Improve post-vaccination serologic testing for infants born to HBV-infected women.</li><li>• Identify and assess HCV prevention strategies for pregnant women.</li><li>• Update policies regarding HCV testing of pregnant women, monitoring of test results, and management of HCV-exposed infants.</li></ul>	



## DVH Strategic Imperative IV:

### Act Globally to Prevent, Detect, and Control Viral Hepatitis

Objectives	Strategies	Measure and Target
<ul style="list-style-type: none"> <li>• <b>Provide support and assistance to the World Health Organization in the achievement of goals to eliminate HBV and HCV as global public health threats.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Provide technical assistance to strengthen national plans and/or normative guidance regarding viral hepatitis surveillance, prevention, diagnosis, retention in care, and treatment, particularly in low-resource settings.</li> </ul>	<p><b>Measure:</b> WHO strategic plans and/or normative guidance drafted or updated for which DVH technical assistance has been provided (annual number)  <b>Target:</b> Two</p>
<ul style="list-style-type: none"> <li>• <b>Assist priority countries to respond to develop, implement, monitor, and evaluate viral hepatitis-related guidelines, policies, plans, and programs.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Assist with development of national action plans.</li> <li>• Assist with implementation and evaluation of viral hepatitis control and elimination strategies.</li> <li>• Leverage resources to support programs through partnership development.</li> <li>• Provide technical assistance and consultation in the investigation and control of viral hepatitis outbreaks.</li> </ul>	<p><b>Measure:</b> Countries receiving technical assistance from DVH regarding development and implementation of plans and normative guidance (annual number)  <b>Target:</b> Two</p>
<ul style="list-style-type: none"> <li>• <b>Develop, implement, and evaluate innovative viral hepatitis detection, prevention, care, and treatment strategies.</b></li> </ul>	<ul style="list-style-type: none"> <li>• Promote quality laboratory testing through proficiency testing and development and implementation of accurate, low cost, simple tests to diagnose current HCV infection and assess response to therapy.</li> <li>• Collaborate in the design and evaluation of model programs to demonstrate effective strategies in the detection, prevention, and control of viral hepatitis.</li> </ul>	<p><b>Measure:</b> Assess existing laboratory capacity and perform an inventory of diagnostic assays in use in ministry of health and other laboratories  <b>Target:</b> Two  <b>Baseline:</b> One</p>