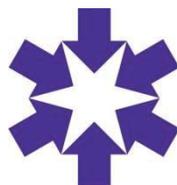




Interagency Implementation Progress Report
for the
Action Plan for the Prevention, Care &
Treatment of Viral Hepatitis



Combating the Silent
Epidemic of Viral Hepatitis
**Action Plan for the Prevention,
Care & Treatment of Viral Hepatitis**

This report was prepared under the direction of the Office of HIV/AIDS and Infectious Disease Policy (OHAIDP), Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services (HHS). Information contained in the report was provided by the Viral Hepatitis Leads from various HHS agencies, the Department of Veterans Affairs and the Bureau of Prisons, Department of Justice. Ms. Corinna Dan, R.N., M.P.H., Viral Hepatitis Policy Advisor in OHAIDP coordinated development of this report. Ms. Antigone Dempsey, M.Ed., Ms. Kelly Stevens, and Ms. Deborah Finette of Altarum Institute and Mr. Steve Holman, M.B.A., all working under contract to OHAIDP, assisted OHAIDP staff in compiling and formatting the report.

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September 2013

Preface

September 2013

It is my honor to share this second report highlighting our progress in implementing *Combating the Silent Epidemic of Viral Hepatitis: Action Plan for the Prevention, Care, & Treatment of Viral Hepatitis* (Action Plan). Released in May 2011, the Action Plan articulated robust and dynamic steps for improving viral hepatitis prevention and the care and treatment provided to infected persons. During 2012, implementation of the Action Plan continued in earnest with significant activities undertaken by offices and agencies within the U.S. Department of Health and Human Services and by our colleagues at the Department of Justice's Federal Bureau of Prisons and the Department of Veterans Affairs' Veterans Health Administration. We are also very pleased that recently the Department of Housing and Urban Development has joined in our cross-government efforts to improve the Nation's response to viral hepatitis.

Once again, I want to acknowledge and thank my colleagues from across the participating Federal agencies who are actively pursuing the Action Plan's ambitious call to action for improved awareness, prevention, testing, treatment, and research. In particular, I want to express gratitude to the members of the Viral Hepatitis Action Plan Implementation Group, the representatives of 18 agencies and offices who have been collaborating on a regular basis since the Plan's release to guide and advance implementation of the Action Plan, serving as champions for the Action Plan within their respective agencies and offices, and identifying opportunities to work with colleagues inside and outside of government to improve our response to viral hepatitis. I would also like to thank Dr. Ronald Valdiserri, Deputy Assistant Secretary for Health, Infectious Diseases, and the Director of the Office of HIV/AIDS and Infectious Disease Policy at the Department of Health and Human Services for his leadership of the efforts to implement the Action Plan. He and his team have been key to the progress that we have made since the Action Plan's release.

Our progress in 2012 certainly advanced us toward the Action Plan's 2020 goals and provides a strong foundation on which we continue to build our efforts during 2013. The Action Plan originally detailed goals, strategies, and actions to be undertaken by federal agencies and offices from 2011 to 2013. I am pleased to state that we are engaged in a process to renew the plan for another 3 years, from 2014 to 2016. Renewing the Action Plan will sustain our momentum while enabling us to strengthen our cross-agency collaborations, sharpen the focus of our activities, and expand the reach of our programs. This report of our 2012 progress will inform the renewal of the Action Plan along with public comments and expert input obtained from across the federal government and many committed stakeholders.

We intend to continue to work in concert with key allies from state and local government, nonprofit education and advocacy organizations, industry, medical and behavioral health care organizations, community advocates and people affected by viral hepatitis so as to sustain and enhance the efforts reported here and identify innovative new strategies to meet the needs of ALL persons living with or at risk for viral hepatitis.

Sincerely yours,



Howard K. Koh, M.D., M.P.H.
Assistant Secretary for Health

Excerpt from Presidential Proclamation on World Hepatitis Day 2012

I encourage all Americans to talk with a physician about hepatitis prevention to learn more about what they can do to stay healthy.

My Administration remains committed to addressing viral hepatitis. As part of our *Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis*; the Healthy People 2020 initiative; and other Federal programs, agencies across the Federal Government are partnering with States, communities, and stakeholders throughout the private and nonprofit sectors to prevent new cases of hepatitis and help Americans who have already been affected. We are promoting hepatitis outreach and education that shines a light on this public health issue. With the White House Initiative on Asian Americans and Pacific Islanders, we are working to prevent, treat, and control hepatitis B infections in AAPI communities. And by bringing health insurance within reach for more Americans, the Affordable Care Act is helping improve patient access to comprehensive viral hepatitis prevention and treatment services.

—***President Barack Obama***

World Hepatitis Day Proclamation

July 29, 2012

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Background

On May 12, 2011, the U.S. Department of Health and Human Services (HHS) issued *Combating the Silent Epidemic of Viral Hepatitis: Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis* (Action Plan). The Action Plan details more than 150 actions to be undertaken over the course of 3 years by agencies and offices across HHS and partners at the Federal Bureau of Prisons (FBOP) and the U.S. Department of Veterans Affairs (VA) that will improve the prevention, diagnosis, and treatment of viral hepatitis in the United States.

The Action Plan put a spotlight on this silent epidemic and its growing impact in the United States, where as many as 5.3 million persons are living with chronic hepatitis B virus (HBV) or hepatitis C virus (HCV) infection and tens of thousands are at risk of infection. While viral hepatitis has previously been addressed by various Federal research, prevention, care, and treatment programs, much of this work was conducted independently, sometimes in isolation from other related efforts. Following the Institute of Medicine's (IOM) 2010 report, *Hepatitis and Liver Cancer*, which recommended steps to reduce the threats posed by HBV and HCV, Assistant Secretary for Health Dr. Howard Koh convened an interagency workgroup composed of subject matter experts from various HHS agencies to review the IOM recommendations and develop a comprehensive strategic viral hepatitis action plan that would

- Address IOM recommendations for viral hepatitis prevention, care, and treatment;
- Set forth actions to improve viral hepatitis prevention and ensure that infected persons are identified and provided with quality care and treatment; and
- Improve coordination of all activities related to viral hepatitis across HHS and promote collaborations with other government agencies and nongovernmental organizations.

Stakeholders from other Federal agencies; professional societies; and state, tribal, local, and community partners also provided critical input into the Action Plan. The steps set forth in the Action Plan represent efforts to be undertaken in calendar years 2011, 2012, or 2013. Some actions outlined in the Plan can be accomplished by using existing resources through improved coordination and integration, while others are subject to the availability of funds.

Following the Action Plan's release, agencies and offices across HHS began working to implement the actions assigned to them in the Action Plan. To support these efforts, HHS convened a Viral Hepatitis Implementation Group (VHIG) and charged it with coordinating, supporting, and overseeing activities related to the Action Plan. The VHIG comprises representatives from across HHS and other Federal agencies and is chaired by Dr. Ronald Valdiserri, Deputy Assistant Secretary for Health, Infectious Diseases. Members of the VHIG have met numerous times over the first 2 years of implementing the Action Plan and have served as representatives within their respective agencies and offices on matters related to viral hepatitis. Read more about the Action Plan at <http://aids.gov/hepatitis>.

Introduction

This second progress report features select highlights of progress made in implementing the Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis during 2012. Compiled by the HHS Office of HIV/AIDS and Infectious Disease Policy (OHAIDP), the report spotlights several key accomplishments under each of the Action Plan's six priority areas. These highlights were reported by the Federal partners engaged in implementing the Action Plan but are only a sampling of the numerous activities that the partners undertook during 2012.

One recurrent theme across the Action Plan is the need for additional evidence to guide policy and practice at every level. Throughout 2012, Federal partners made important contributions to addressing gaps in our understanding of the prevention, care, and treatment of viral hepatitis through the publication of articles in the peer-reviewed literature along with the development of reports and other technical documents. These publications from across VHIG partner organizations advance efforts to develop and implement evidence-based programs, clinical services, and policies, and many are featured in this report.

Finally, this 2012 report features a brief analysis of HBV and HCV testing activities taking place in federally funded programs. HBV and HCV testing services are a foundation on which we can build progress toward the goals of the Action Plan. Testing identifies chronically infected people and provides an opportunity to link them to services and therapies that can decrease their risk of liver disease. This report is the first time that viral hepatitis testing data has been requested from across government programs.

All of the described activities support progress toward the four overarching goals that the Action Plan charts for accomplishment by 2020:

- An increase in the proportion of persons who are aware of their HBV infection, from 33 to 66 percent;
- An increase in the proportion of persons who are aware of their HCV infection, from 45 to 66 percent;
- A 25 percent reduction in the number of new cases of HCV infection; and
- Elimination of mother-to-child transmission of HBV.

Federal Partners in Implementing the Action Plan for the Prevention, Care, and Treatment of Viral Hepatitis

U.S. Department of Health and Human Services

- Agency for Healthcare Research and Quality
- Centers for Disease Control and Prevention
- Centers for Medicare & Medicaid Services
- Food and Drug Administration
- Health Resources and Services Administration
- Indian Health Service
- National Institutes of Health
- Office of the Assistant Secretary for Health
- National Vaccine Program Office
- Office of HIV/AIDS and Infectious Disease Policy
- Office of Minority Health
- Office of the Surgeon General
- Office on Women's Health
- Regional Health Administrators
- Office of the National Coordinator for Health Information Technology
- Substance Abuse and Mental Health Services Administration

U.S. Department of Housing and Urban Development

- Community Planning and Development

U.S. Department of Justice

- Federal Bureau of Prisons

U.S. Department of Veterans Affairs

- Office of Public Health, Veterans Health Administration

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This list reflects members as of the release of this report. Not all partners listed here contributed to the activities summarized in this report since new members have joined in 2013.

Priority 1 Educating Providers and Communities to Reduce Health Disparities

Goals

1.1 Build a U.S. health care workforce prepared to prevent and diagnose viral hepatitis and provide care and treatment to infected persons.

1.2 Decrease health disparities by educating communities about the benefits of viral hepatitis prevention, care, and treatment.

Increased provider knowledge has been shown to improve delivery of preventive services, including those for viral hepatitis. Expanding the number of patients aware and providers knowledgeable about viral hepatitis testing, care, and treatment is key to maximizing the benefits afforded by new viral hepatitis testing and treatment options, as well as opportunities presented in a reformed health care system.

Reducing viral hepatitis health disparities will require that disproportionately affected communities, and the providers at all levels of the health systems that serve them, all become better educated and more aware of opportunities for prevention, care, and treatment. Providers' enhanced understanding of the diversity of patients at risk for viral hepatitis (e.g., Asian Americans and Pacific Islanders [AAPI], African Americans, HIV-infected persons, injection drug users [IDUs], men who have sex with men [MSM], baby boomers [persons born during 1945–1965]) will help improve their ability to find, manage, and treat people who have chronic viral hepatitis. This diverse patient population is cared for by an equally diverse group of clinical care providers, from community health providers in remote Alaskan villages to drug treatment providers in inner cities. To be effective, activities to improve viral hepatitis education must encompass and engage a wide variety of health care providers and communities.

In 2012, the following were among the actions undertaken by Federal partners to educate communities about viral hepatitis and build a strong workforce of viral hepatitis providers:

Launching national hepatitis education activities and campaigns. In 2012, the CDC's NCHHSTP launched "Know More Hepatitis," an educational campaign to inform the general public, persons at risk, and health care providers about the serious consequences of unrecognized viral hepatitis infections. The campaign is designed to encourage testing of persons at risk, as well as linkage to care for persons who test positive for viral hepatitis.

"Know More Hepatitis" includes a targeted multimedia campaign, which comprises news media outreach, print and broadcast ads, transit ads, radio public service announcements (PSA), airport dioramas, magazine ads, a Web presence, and social media such as Facebook and Twitter. Additionally, the campaign has featured PSAs from Assistant Secretary for Health Dr. Howard Koh and then-Surgeon General Dr. Regina Benjamin. CDC Director Dr. Thomas Frieden led media outreach efforts. In 2012, more than \$4.8 million of donated space was available for campaign material placement. Many donated placements that were secured in 2012 will continue to accrue value and have an impact in 2013.

The first-ever national Hepatitis Testing Day. The campaign included the successful launch of the first annual observance of National Hepatitis Testing Day on May 19, 2012, which featured far more than 100 testing events across the country. Members of the VHIG were actively engaged in testing day activities through outreach and awareness messaging with Federal staff, grantees, partners, and others.

Training for health care providers. The “Know More Hepatitis” campaign included the development of online training delivered by medical educators to health care providers. Health care providers also received online training developed by NCHHSTP grantees.

Hepatitis B education and awareness. In 2012, the formative stages of an HBV education and awareness campaign targeting at-risk communities was initiated, including review of materials by key stakeholders from target communities across the country. A variety of educational materials were developed in English, Chinese, Korean, and Vietnamese in order to address the health disparities in these populations related to HBV. The campaign was launched in June 2013.

Addressing viral hepatitis co-infections to improve health outcomes. HRSA’s HIV/AIDS Bureau (HAB) understands that viral hepatitis is among the co-occurring conditions that must be addressed to improve health outcomes for people living with HIV. HCV is a leading cause of morbidity and mortality among people living with HIV. On average, one-third of people living with HIV are co-infected with HCV (prevalence rates are even higher among IDUs), and an estimated 10 percent of people living with HIV are co-infected with chronic HBV. One important initiative addressing this issue is HAB’s Hepatitis C Treatment Expansion Initiative. Funded as a Special Project of National Significance (SPNS), this initiative supported 29 Ryan White HIV/AIDS Program grantees in 2012. Each grantee received resources to test new models of integrating HCV treatment into their clinical practice, with an overall goal to enable sites to increase the number of co-infected patients treated for HCV. This initiative will evaluate the effectiveness of the interventions to deliver HCV treatment among HIV-positive populations and will share best-practice models with Ryan White grantees and other HIV medical providers to improve access to and quality of HCV care and treatment for HIV patients. At the November 2012 Ryan White HIV/AIDS Program Grantee Meeting, AIDS Care Group of Chester, Pennsylvania, and the Siouxland Community Health Center of Sioux City, Iowa shared their experiences. The University of South Florida, which has a cooperative agreement to serve as the training and evaluation center for this SPNS initiative, also presented at the grantee meeting, highlighting elements of a successful HIV/HCV program and four models of care delivery being used by the SPNS grantees: primary care delivery with expert backup, integrated care without a designated HCV clinic (expert consultation used for severe complications), integrated care with a designated internal HCV clinic, and co-located care with a specialist who manages treatment at Ryan White clinical site. Outcomes to be measured across all sites include the number of HIV/HCV-co-infected patients treated or not treated for HCV, barriers to HCV treatment, sustained virologic response, services utilization, and cost. Grantees are also encouraged to conduct projects designed to investigate local issues that affect HCV treatment in their populations.

Expanding provider capacity for treating viral hepatitis. In summer 2012, HAB was awarded HHS Secretary’s Minority AIDS Initiative funds to expand the number of AIDS Education and Training Centers (AETC) Telehealth Training Centers. HAB currently supports 11 Telehealth Training Centers, to include support of viral hepatitis treatment expansion. This effort is scheduled through June 2015.

Creating a viral hepatitis specialty care network for Veterans. The VA developed a comprehensive HCV Specialty Care Access Network (SCAN)/Extension for Community Healthcare Outcomes (ECHO) standardized curriculum. In collaboration with a technical advisory group and the VA's Employee Education System, the SCAN/ECHO curriculum is designed to support training and mentorship of providers in rural and underserved areas to promote the VA's high-quality standards of care for diagnosis, care, and treatment for all Veterans with chronic HCV. There are currently seven hub sites for the SCAN/ECHO program, with more than 600 consults received. VA sites participating in 2012 are from California, Washington, Oregon, Alaska, Connecticut, Vermont, Virginia, North Carolina, New Hampshire, New Mexico, Texas, Arizona, Michigan, and Indiana. The VA has looked at provider satisfaction, which is high, as well as specialty team satisfaction. Future measures will include rates of confirmatory testing, referrals for mental health and substance use care, sustained virologic response, and assessing travel miles averted.

Priority 2 Improving Testing, Care, and Treatment to Prevent Liver Disease and Cancer

GOALS

2.1 Identify persons infected with viral hepatitis early in the course of their disease.

2.2 Link and refer persons infected with viral hepatitis to care and treatment.

2.3 Improve access to and quality of care and treatment for persons infected with viral hepatitis.

2.4 Advance research to facilitate viral hepatitis prevention and enhance care and treatment for infected persons.

Timely diagnosis of HBV and HCV and better provision of care and treatment to those who are infected can decrease the burden of cirrhosis and liver cancer, reduce the need for liver transplantation, and reduce the number of deaths due to viral hepatitis in the United States. Provision of these services also can help reduce the viral-hepatitis-related health disparities experienced by populations at high risk for viral hepatitis, such as IDUs, MSM, HIV-infected persons, baby boomers, African-Americans, and AAPIs.

In 2012, the following were among the actions undertaken by Federal partners to improve testing, care, and treatment to prevent liver disease and cancer:

Expanding viral hepatitis testing recommendations. The CDC conducted a comprehensive scientific analysis to provide the justification for new recommendations for HCV testing. In doing so, the CDC employed an evidence-based policy development model which was informed by the *Grading of Recommendations Assessment, Development, and Evaluation* (GRADE) framework. The GRADE framework provided guidance and tools to define research questions, conduct a systematic review, assess the overall quality of evidence, and determine the strength of the recommendations that the CDC considered.

A recommendation for one-time routine HCV testing of all persons born between 1945 and 1965, without ascertainment of risk factors, was developed via the GRADE methodology and released by the CDC on August 12, 2012. This recommendation is in addition to the CDC's 1998 recommendation that all adults with identified risk factors for HCV infection should be tested.

Expanding HBV and HCV testing for persons at risk. To expand HBV and HCV testing, the CDC awarded \$6.6 million from the Patient Protection and Affordable Care Act's Prevention and Public Health Fund to 35 sites to provide HBV or HCV testing for persons at risk for hepatitis and to provide linkages to care for infected persons. HBV testing and referral sites focus on Asian Americans, who bear nearly half the chronic HBV infection burden in this country. HCV testing and referral sites included programs that serve persons who inject drugs, community health centers, and other venues that serve persons at risk for HCV infection. Since awarding the funds, the CDC has held a grantee meeting where counseling guidelines, reporting

requirements, and evaluation tools were discussed. The CDC also developed a secure Web-based system to collect data from grantees. The system has subsequently received Office of Management and Budget approval and all security clearances; trainings have been provided to grantees, and data entry has begun. In addition, the CDC began to develop a simple yet expandable data-monitoring system that will include indicators related to both target populations (e.g., current and past risk behaviors, race/ethnicity) and levels of achievement (e.g., number of tests conducted for HBV and HCV, number of new cases identified). To support these new efforts, technical assistance was provided to grantees in preparation for testing and referral to care activities, which most grantees began in December of 2012.

Coordinating an HCV demonstration project. HRSA's Bureau of Primary Health (BPHC) facilitated the initial dialogue and introduction of partners, including the Community Health Care Association of New York State (CHCANYS), which received funding from Health Research, Inc., for a 2-year collaborative HCV demonstration project in partnership with the New York State Department of Health (NYSDOH) AIDS Institute, the New York City Department of Health and Mental Hygiene's Office of Viral Hepatitis Coordination, and the Harm Reduction Coalition. The objective of the project was to improve prevention, screening, and treatment of HCV within the community health center model. Six health center sites were selected to participate in the project. CHCANYS used a learning collaborative model and videoconferencing technology to ensure the transfer of knowledge, new skills, and capability to participants while supporting their improvement work. The teams participated in an 8-month learning collaborative and created quality improvement teams focused on addressing HCV. A number of best practices were collectively implemented as a result of the improvement process:

- Training of front-desk staff to promote continuity of care,
- Training of clinical staff to support HCV illness improvement,
- Development of registry to capture HCV positive patients,
- Development and utilization of assessment surveys to screen indicators to increase screening rates and optimize waiting room time,
- Partnerships with pharmaceutical and/or lab companies to subsidize screening tests and treatment drugs,
- Utilization of community health workers and staff for outreach and patient support, and
- Support groups to increase treatment compliance.

Creating electronic health record tools to improve HCV screening for American Indians. The IHS has been innovative in using computer technology to capture clinical and public health data to support the provision of health services. In 2012, the IHS developed a HCV screening clinical reminder module in the electronic health record (EHR) and launched it in two pilot sites. The reminder module is modeled on the logic used in the VA, which has a very well-developed EHR. In clinical practice, the module reminds clinicians to screen patients born between 1945 and 1965 for HCV infection.

Monitoring outcomes of newly approved anti-HCV therapies. FDA's Center for Drug Evaluation and Research engaged in a collaborative with the Hepatitis C Therapeutic Registry and Research Network (HCV-TARGET) to monitor outcomes of newly approved anti-HCV therapies. HCV-TARGET is a cooperative academic consortium of leading HCV investigators and community-based sites affiliated with the academic sites in geographic proximity. The project is a longitudinal, observational study that will create a research registry of patients treated with telaprevir or boceprevir. The registry will be designed to rapidly inform strategies for better management of populations underrepresented in clinical trials, identify and remediate educational gaps relative to treatment guidelines and adverse event management in order to optimize rates of sustained virological response, and serve as the core resource for important

collaborative translational studies using biospecimens and clinical data from diverse patient populations. The HCV-TARGET registry seeks to characterize patients underrepresented in clinical trials of telaprevir and boceprevir, including African Americans, patients with cirrhosis, and patients considered null responders to treatment.

Advancing the development of new therapeutic agents for HCV infection. NIH's National Institute of Allergy and Infectious Diseases (NIAID) is supporting the development of several new therapeutic agents for HCV infection (e.g., HCV Entry Inhibitor ITX 5061 [NCT01165359], HCV Protease Inhibitor Bocepravir [NCT01482767]) and adjunct treatments (e.g., pioglitazone, nitazoxanide) to increase the response rate to PEGylated interferon plus ribavirin treatment for HIV/HCV-co-infected patients (e.g., NCT00665353, NCT00991289). NIAID's research includes initial screening for active compounds in *in vitro* and *in vivo* models, preclinical development of selected compounds, and clinical studies.

Providing Direct-Acting Antivirals (DAA) to Veterans. The VA engaged in a comprehensive, multifaceted approach to examine the operational adoption of DAA regimens for the treatment of hepatitis C—spanning all VA levels—relying upon a basic framework of education and training, real-time oversight and feedback from a higher organization level, provision of data to front-line clinical staff for effective regional and local management, and prompt outcome sharing. In 2011, 865 Veterans received their first DAA from VA prescribers. In 2012, the first full year after FDA approval, more than 4,000 Veterans with genotype 1 received their first DAA, out of 97,011 Veterans in VA care mono-infected with genotype 1 HCV.

Within the first 6 months after FDA approval, boceprevir or telaprevir had been prescribed at 94 of 130 VA facilities. One year after FDA approval, DAAs were prescribed at 120 of 130 VA facilities. Five of those sites not prescribing DAAs had fewer than 250 HCV-infected Veterans in care and were referring patients to non-VA facilities for HCV care. Comprehensive data and outcome sharing improved clinical practice, as measured by improved HCV RNA monitoring and attention to adherence, and further contributed to more appropriate management of DAA-related anemia and neutropenia. Almost 60 percent of these Veterans started DAA regimens prescribed by mid-level providers. Facility treatment initiation rate, response to treatment, and sustained viral responses are closely monitored and made available to front-line clinical staff.

Providing Direct-Acting Antivirals (DAA) to Inmates. In March 2012, FBOP began providing the Direct-Acting Antivirals to Inmates with HCV genotype 1 infection. As of August, 2013, 214 inmates have initiated treatment with these medications, 55 have completed a course of therapy and 92 remain on active treatment. The FBOP Regional and National Pharmacy Consultants monitor treatment and outcomes of all inmates treated with the new anti-HCV therapies.

Priority 3 Strengthening Surveillance to Detect Viral Hepatitis Transmission and Disease

GOALS

3.1 Build a network of State and local surveillance systems with sufficient capacity to monitor viral hepatitis transmission and disease.

3.2 Monitor viral-hepatitis-associated health disparities.

3.3 Monitor provision and impact of viral hepatitis prevention, care, and treatment services.

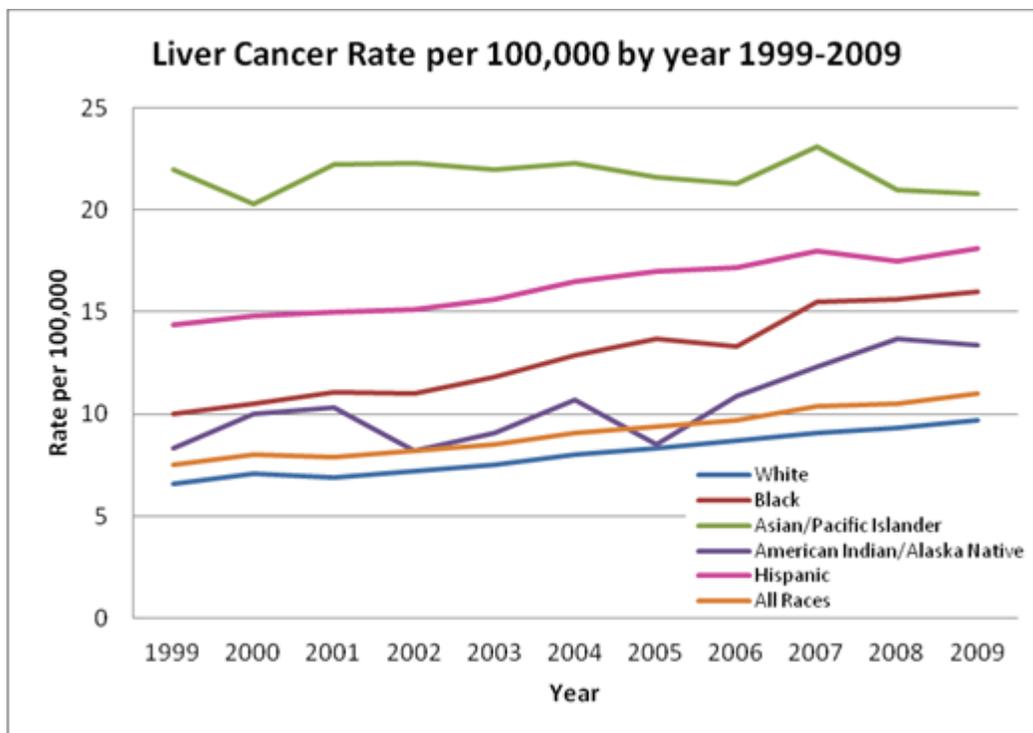
3.4 Develop and implement new technologies and laboratory procedures to improve viral hepatitis surveillance.

Surveillance data affords public health professionals insight into the current prevalence and incidence of disease. Data from surveillance systems can highlight trends in the burden of disease, identify disparities in health, inform the evaluation of public health programs and policies, and monitor changes in health care practices. While there exist a number of viral-hepatitis-related data sources that help provide insight into current disease prevalence and incidence at the State and local levels, including the National Notifiable Disease Surveillance System, which serves as the primary source of viral hepatitis surveillance data in the United States, this source does not fully capture chronic viral hepatitis prevalence or specifically target populations at high risk for viral hepatitis. Employing active surveillance and serologic surveys that target priority populations would provide more accurate estimates of the burden of HBV and HCV in the United States.

With additional resources, viral hepatitis surveillance could be enhanced in several dimensions. For instance, automated surveillance systems can be linked to electronic medical records (EMR), which incorporate essential information regarding patient demographics; test results; clinical conditions; and the prevention, care, and treatment services rendered by health care providers. Increased resources also would enable case definitions to be revised to reflect the advent of new laboratory technologies and meet new data needs of prevention programs. Finally, data standards and IT systems could be employed to link viral hepatitis surveillance with other surveillance systems (e.g., those used to monitor HIV, cancer, and immunization).

In 2012, the following were among the actions undertaken by Federal partners to strengthen surveillance to detect viral hepatitis transmission and disease:

Conducting Liver Cancer Surveillance. The CDC and the NIH National Cancer Institute, in collaboration with the North American Association of Central Cancer Registries, produce official Federal statistics on cancer incidence and mortality data available via a Web-based report. According to the CDC, liver cancer rates have tripled over the last several decades with at least half of the cases attributable to HCV and approximately one-sixth attributable to HBV.



Suggested Web citation: U.S. Cancer Statistics Working Group. *United States cancer statistics: 1999–2009 incidence and mortality Web-based report*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2013. <http://apps.nccd.cdc.gov/uscs/>. Accessed July 15, 2013.

Expanding local flexibility to establish performance metrics for viral hepatitis activities.

The CDC strengthened local jurisdictions’ flexibility and ability to support surveillance activities by expanding the Adult Viral Hepatitis Prevention Coordinators’ (AVHPC) funding opportunity announcement (FOA) in July 2012; the awards were made in November 2012. The FOA combined viral hepatitis prevention activities at State and local surveillance programs and set measurable performance goals; it also expanded grantees ability to use awarded funds to create performance standards and increase surveillance activities. The previous program funding structure provided funding only for the AVHPCs; the modified FOA gave States and large metropolitan areas the opportunity to establish performance metrics and ensure that surveillance and prevention activities are integrated in the funded jurisdictions, greatly expanding their efforts to address viral hepatitis. After the FOA was released, the CDC awarded \$5.25 million to adult viral hepatitis coordinators in 49 States, the District of Columbia, and four metropolitan areas to provide leadership in the implementation of HBV and HCV testing, counseling, and linkage to care as a routine service in public health programs and other settings serving persons at risk for infection.

Enhanced surveillance activities through new cooperative agreements. In addition to funding the AVHPCs, the CDC also awarded \$3.2 million through cooperative agreements with Massachusetts, Philadelphia, San Francisco, New York, Florida, Washington, and Michigan to conduct active and enhanced surveillance for viral hepatitis. Grantee activities include

- Monitoring trends in incidence and risk factors for viral hepatitis A, acute and chronic viral hepatitis B, and acute and chronic viral hepatitis C;
- Identifying and controlling outbreaks;

Priority 3: Strengthening Surveillance to Detect Viral Hepatitis Transmission and Disease

- Identifying the number of infected persons who need linkage to counseling and medical follow-up; and
- Identifying and characterizing infected persons who receive treatment.

Monitoring hepatitis B infection in Veterans. The VA convened an HBV workgroup, including key VA stakeholders and subject matter experts, to develop a national and coordinated effort in VA to understand HBV testing rates, prevalence, and gaps in care. Through this effort, the VA determined HBV testing variables, regional testing rates, and demographics that will be extracted from VA's Corporate Data Warehouse. These efforts will improve monitoring of HBV testing and care services for Veterans with chronic hepatitis B.

Monitoring advanced liver disease in Veterans with chronic hepatitis C. All Veterans in VA care known to have chronic hepatitis C are followed via the VA's National Hepatitis C Clinical Case Registry (CCR), an electronic database that captures clinical, laboratory, and pharmacy information on HCV care in the VA. VA CCR reports showed that out of 173,416 Veterans with chronic hepatitis C in VA care in 2012, 4,267 (2 percent) were newly diagnosed with cirrhosis; the prevalence of cirrhosis among Veterans with chronic hepatitis C in VA care in 2012 was 16 percent. In 2012, of Veterans with chronic hepatitis C in VA care, 1,637 (0.9 percent) were newly diagnosed with hepatocellular carcinoma.

Priority 4 Eliminating Transmission of Vaccine-Preventable Viral Hepatitis

GOALS

4.1 Eliminate mother-to-child transmission of hepatitis B.

4.2 Achieve universal hepatitis A virus (HAV) and HBV vaccination for vulnerable adults.

4.3 Design and test new or improved viral hepatitis vaccines and determine the indications for their optimal use.

While there are three types of viral hepatitis that contribute most substantially to the disease burden in the United States, only two, HAV and HBV, are vaccine preventable. Development of a vaccine that prevents new HCV infections remains a high priority. Hepatitis E virus (HEV), a major cause of viral hepatitis infection in Asia and Africa, also likely will be preventable via vaccine in the future, as clinical trials have revealed two promising candidate vaccines.

There are a number of barriers to vaccination, including (1) vaccine affordability for patients and adequate vaccine administration reimbursement for providers; (2) vaccine availability in public health settings; (3) alternative vaccination sites; (4) inadequate data collection and tracking systems; (5) inadequate public health and health system infrastructure for care coordination of HBV-infected pregnant women, their newborn infants, and their household contacts; and (6) lack of precise vaccination coverage estimates for adults in priority populations.

Development of new, more effective vaccines that provide long-term protection with fewer doses required could increase vaccine acceptance and achieve greater levels of protective immunity overall in the United States. The development of vaccines that induce protective immunity in those with reduced immune response rates, such as older adults and adults with comorbidities, is equally important. Hopefully, research will eventually yield new vaccines to prevent HCV and HEV infection.

In 2012, the following were among the actions undertaken by Federal partners to eliminate the transmission of vaccine-preventable viral hepatitis:

Establishing clinical trials on prevention of perinatal HBV transmission. NIH's National Institute of Child Health and Human Development (NICHD) finalized the protocol for a prospective, randomized, placebo-controlled trial of tenofovir (in addition to standard HBV immune globulin and vaccine) for prevention of transmission of hepatitis B from HBeAg-positive women to their infants in Thailand in 2012. HBeAg is a serologic marker and an indicator of infectivity. HBeAg-positive women are at highest risk for transmission of HBV to their infants at the time of birth, even with the standard prophylaxis of HBV immunoglobulin and vaccine. Regulatory and institutional review board approvals have been obtained and site trainings conducted in preparation for initiation of the study in January 2013. This study is funded by NICHD in collaboration with the CDC in a cooperative agreement and is expected to complete

enrollment of more than 300 HBV-infected mothers and their children in 2015. For more information about this study, visit <http://clinicaltrials.gov/ct2/show/NCT01745822>.

Launching an online vaccine finder. The National Vaccine Program Office launched the HealthMap Vaccine Finder (<http://flushot.healthmap.org/>) in collaboration with HealthMap, a team of researchers, epidemiologists, and software developers at Boston Children's Hospital. The Vaccine Finder is a free online service where individuals can search for locations to obtain various adult vaccines, including vaccination for HAV and HBV. The site also features an assessment tool designed to recommend vaccination based on age, location, and behavioral risk. To date, almost 600,000 people have used the tool, and more than 60,000 providers have registered for the site.

Launching a national HCV vaccine study. In March 2012, NIAID launched a double-blinded, randomized, phase I/II trial (NCT01436357) to evaluate the safety, immunogenicity, and initial efficacy of a vaccine to prevent acute and chronic hepatitis C. Although effective vaccines for HAV and HBV are available, there is not a vaccine for HCV. The study is currently in progress and expected to enroll approximately 350 active injection drug users, a population heavily affected by HCV infection and for which a vaccine is much needed. For more information, visit <http://www.clinicaltrials.gov/ct2/show/NCT01436357?term=NCT01436357&rank=1>.

Priority 5 Reducing Viral Hepatitis Caused by Drug Use Behaviors

GOALS

- 5.1 Ensure that persons who inject drugs have access to viral hepatitis prevention, care, and treatment services.
- 5.2 Mobilize community resources to prevent viral hepatitis caused by injection drug use.
- 5.3 Provide persons who inject drugs with access to care and substance abuse treatment to prevent transmission and progression of disease.
- 5.4 Expand access to and delivery of hepatitis prevention, care, and treatment services in correctional settings.
- 5.5 Advance research to improve prevention of viral hepatitis among persons who use drugs.

Injection drug use continues to be the most common mode of transmission for HCV in the U.S. and is also a risk factor for HBV acquisition. HAV, which is spread by the fecal-oral route, can occur among IDUs as a consequence of contaminated drugs, poor hygiene during drug-sharing practices, and other activities that involve personal contact. Efforts to address viral hepatitis infection must address injection drug use, including behaviors and the population injecting drugs. New HBV infections generally occur in drug users who have not been vaccinated, such as immigrants and individuals born before the 1991 recommendation to immunize all infants for HBV. IDUs are not only disproportionately affected by these viruses, but they are more likely than other infected populations to have adverse hepatitis-related health outcomes. Several additional factors contribute to the suboptimal health outcomes experienced by IDUs infected with viral hepatitis, including lack of awareness of infection status, late diagnosis, and lack of access to adequate medical care and treatment. Despite these challenges, public health efforts can successfully prevent new viral hepatitis infections among IDUs.

In 2012, the following were among the actions undertaken by Federal partners to reduce viral hepatitis caused by drug using behaviors:

Supporting new research studies on HCV infection in IDUs. NIH's National Institute on Drug Abuse (NIDA) has invested in research aimed at breaking down the barriers that IDUs often confront when accessing HCV screening, treatment, and prevention services. IDUs are particularly prone to HIV and HCV infection through exposure during injection drug use. During 2012, NIDA supported four new major research studies on hepatitis C focusing on prevention, screening, and treatment issues to develop evidence-based treatment and prevention strategies for those who suffer from addiction and other health consequences that result from drug use. These research studies are ongoing.

NIH's National Institute on Alcohol Abuse and Alcoholism (NIAAA) sponsored in September 2012 an International meeting, "Interactions of Alcohol Consumption and Viral Hepatitis in Liver Injury." Presentations are published in a special 2013 issue of the *Journal of Gastroenterology and Hepatology*, volume 28, supplement 1, pages 18-25.

Enhancing the capacity of substance abuse treatment programs to integrate viral hepatitis screening and linkage to care into existing services. SAMHSA's Center for Substance Abuse Treatment released a request for applications (RFA) for the fiscal year 2012 Targeted Capacity Expansion Program: Substance Abuse Treatment for Racial/Ethnic Minority Populations at High Risk for HIV/AIDS grants (RFA No. TI-12-007). The 52 grantees that were awarded funding as part of this RFA are required to integrate viral hepatitis screening, prevention, and linkage to care efforts for individuals identified as being at risk for HBV or HCV infection, based on the CDC's guidelines.

Expanding national training and technical assistance for substance abuse grantees and providers. Under SAMHSA's 2012 Addiction Technology Transfer Center (ATTC) Grant, which includes a collaboration between SAMHSA and NIDA to promote the adoption of evidence-based practices, 15 grantees (10 regional ATTCs, four national focus area ATTCs, and the ATTC National Coordinating Office) were awarded \$10.53 million to provide training and technical assistance services specific to the development of the addictions workforce. A new requirement in this round of ATTC funding was the set-aside of \$40,000 by each of the 10 regional ATTC grantees to provide training to staff of Federally Qualified Health Centers on best practices related to serving clients with viral hepatitis. The selected ATTCs are in the beginning stages of developing a core hepatitis curriculum for opioid treatment providers, with a projected delivery date of early 2014.

Addressing transmission of HCV among young persons who inject drugs. CDC engaged in a number of activities to address the epidemic of HCV among young injectors; outlined below is a summary of their activities in 2012:

- *Allocated funding to six health departments to investigate HCV among young persons who inject drugs.* CDC allocated funding to six health departments in Wisconsin, Philadelphia, Michigan, Florida, Minnesota, and Massachusetts to investigate (1) the phenomenon of prescription opiate analogue misuse as a gateway to subsequent heroin injection and HCV infection in adolescents and adults 18–25 years of age, (2) other drug use behaviors and risk factors associated with HCV infection among young persons who inject drugs, and (3) HCV testing and care patterns in these young persons.
- *Supported prospective follow-up study of new cases of HCV infection.* The CDC provided funding to the Philadelphia Department of Public Health (PDPH) for a prospective follow-up of new cases of HCV infection in young adults. The PDPH has hired a Young HCV Project Coordinator whose focus is to lead case follow-up efforts and to develop targeted prevention strategies for this vulnerable population. The PDPH is one of a number of entities to receive funding under this activity.
- *Supported State Health Department's investigation of increase of new HCV infections in young persons who inject drugs.* The CDC initiated a number of studies and activities to address transmission of HCV among young persons who inject drugs. At the invitation of the NYSDOH, the DVH assisted both the NYSDOH and the Cortland County Health Department in the investigation of a recent increase in new HCV infections in Cortland County, NY, among young persons who inject drugs. This study yielded important insight into the factors associated with the emerging trend of HCV infection among young injectors in rural and exurban settings.
- *Commenced a study to assess emerging clusters of HCV infections among young injectors in rural and suburban settings.* The CDC began a study in suburban Chicago and rural Milwaukee to assess emerging clusters of HCV infections among young persons who inject

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drugs in rural and suburban settings. This project expands the CDC's efforts and research findings from its investigation in upstate New York.

Priority 6 Protecting Patients and Workers From Health Care-Associated Viral Hepatitis

GOALS

- 6.1 Reduce transmission of viral hepatitis to patients resulting from misuse of medical devices and drugs.
- 6.2 Reduce iatrogenic transmission of viral hepatitis associated with blood, organs, and tissues.
- 6.3 Reduce occupational transmission of viral hepatitis.
- 6.4 Enhance understanding of the preventable causes of viral hepatitis transmission in health care settings.

Although receipt of transfused blood products was once a significant risk factor for the acquisition of viral hepatitis in the United States, routine blood screening has substantially reduced the risk of acquiring HBV and HCV from transfused blood products. To further reduce the risk of health care-acquired viral hepatitis among patients and their providers, we must ensure continuing infection control education to all health care providers, enhance professional and institutional accountability, and improve practice oversight. In addition, collaboration between the public and private health sectors is needed to improve the design and labeling of medical devices and medications—activities that will facilitate infection control compliance among the professionals who use them.

In 2012, the following were among the actions undertaken by Federal partners to protect patients and workers from health care-associated viral hepatitis:

Updating recommendations for the management of HBV-infected health care providers.

As called for in the Action Plan, in July 2012, the CDC developed and issued an update to its 1991 recommendations for the management of HBV-infected health care providers to reduce the risk of transmitting HBV to patients during the conduct of exposure-prone invasive procedures. Published in the July 6, 2012, issue of [*MMWR Recommendations and Reports*](#), the update reflected changes in both the epidemiology of HBV infection and rates of HBV vaccination, as well as advances in hepatitis B diagnosis and therapy in the United States. The update also explicitly addressed for the first time the issue of medical and dental students who have chronic HBV infection. Approximately one-quarter of current medical and dental students are from AAPI communities. In the past, enrollment decisions based on HBV infection status have disparately affected members of the AAPI community. The updated guidelines not only foster efforts to reduce the occupational transmission of viral hepatitis but also seek to curtail unlawful discrimination against students with hepatitis B seeking to pursue studies in the health professions.

Releasing guidance to protect patients from device and drug misuse. To assist oversight authorities in ensuring the appropriate use of medical devices and the provision of associated training within health care settings to reduce transmission of viral hepatitis to patients resulting from misuse of medical devices and drugs, CMS issued two important policy guidances in 2012.

The first was from CMS's Survey and Certification Group on glucometers (point-of-care devices) and insulin pens issued on May 15, 2012. In that guidance, "Use of Insulin Pens in Health Care

Facilities,” CMS noted that it had recently received reports of use of insulin pens for more than one patient in health care facilities, with at least one 2011 episode resulting in the need for post-exposure patient notification, indicating that some health care personnel do not adhere to safe practices and may be unaware of the risks these unsafe practices pose to patients. The guidance emphasized that insulin pens are meant for use by a single patient only with each patient or resident having his or her own, since regurgitation of blood into the insulin cartridge after injection will create a risk of blood-borne pathogen transmission if the pen is used for more than one patient or resident, even when the needle is changed. It instructed State Survey Agencies, which monitor health care facilities for compliance with the Medicare Conditions of Participation, that sharing of insulin pens is essentially the same as sharing needles or syringes and must be cited, in accordance with the applicable provider- or supplier-specific survey guidance, in the same manner as reuse of needles or syringes.

The second guidance from the Survey and Certification Group, “Safe Use of Single Dose/Single Use Medications,” was issued on June 15, 2012. In that memo, policy was clarified on the use of single dose vials and provided guidance to State Survey Agencies that medication from single-dose vials must not be used for more than one patient and, if observed during a health care facility survey, must be cited as an infection control deficiency. Medication from single-dose vials may be repackaged in accordance with USP 797 standards—issued by the U.S. Pharmacopeia to ensure that medications are compounded accurately and appropriately, protecting patients from microbially contaminated preparations—either within the facility or through a vendor. When a vendor is used, surveyors are instructed to ask for documentation on how the facility ensures that its vendor adheres to USP 797 standards. CMS has also provided training for surveyors to better assess injection safety as part of the infection control assessment in facilities.

Enhancing quality improvement in dialysis facilities. On June 14, 2012, CMS released a new version of its End-Stage Renal Disease (ESRD) information system, the Consolidated Renal Operations in a Web-Enabled Network (CROWNWeb). CROWNWeb provides a way for dialysis facilities to submit ESRD data electronically to CMS rather than the historical paper-based format in use since the establishment of the ESRD program.

CROWNWeb is part of the ongoing CMS ESRD Quality Initiative that seeks to improve the quality of dialysis care provided to ESRD patients. Through CROWNWeb, all Medicare-certified dialysis facilities, along with some transplant and VA facilities that volunteered to participate, now submit administrative and patient-level clinical data directly to CMS electronically. This initiative provides a more efficient channel for CMS to support quality improvement efforts among providers, and the data collected by CROWNWeb will provide critical information on quality of care at the facility level (via the Dialysis Facility Compare Web site) that will empower patients in their health care decisions.

CROWNWeb also supports a number of quality initiatives to monitor key concerns in the dialysis setting. These concerns include blood-borne infections such as viral hepatitis, which is transmitted easily via the vascular access required for hemodialysis. Other elements collected include medication allergies, frequency of vascular access inspection, and patient education reminders, which encourage health care providers to maintain a close connection to the treatment and condition of each patient. Additionally, data on key elements such as vaccinations for HBV and other infections are transmitted by facilities using CROWNWeb, allowing CMS to track, monitor, and measure the success of efforts to prevent the transmission of these diseases via dialysis.

Supporting research to improve blood transfusion safety. In addition to supporting investigator-initiated research on issues related to viral hepatitis and blood safety, NIH's National Heart, Lung, and Blood Institute continued support of the Retrovirus Epidemiology Donor Study–II (REDS-II) and its successor launched in November 2011, the 7-year, \$87.2 million Recipient Epidemiology and Donor Evaluation Study–III (REDS-III). Both studies are finding new ways to enhance blood transfusion safety and the practice of blood banking domestically and internationally. For example, the REDS-II study is assessing the relative prevalence of risk factors in U.S. blood donors who are found to be positive for HIV, HCV, or HBV on screening. The data will provide information on changing patterns of transfusion-transmissible infectious risks to guide blood donor screening strategies. The REDS-III international programs in Brazil, China, and South Africa collect similar information on risks of transmitting HIV, HCV or HBV by blood transfusion in these countries. Findings will protect both blood donors and recipients from existing and future risks, benefitting both the United States, and other countries that are struggling to ensure blood safety and availability.

Appendix A. Overview of Federally Funded Viral Hepatitis Testing Activities

Viral hepatitis testing is key to building a comprehensive viral hepatitis prevention and care strategy. Testing identifies individuals who are chronically infected and offers opportunities for education and prevention counseling. Effective testing programs provide linkages to care and treatment that can decrease the risk of cirrhosis and liver cancer. This section of the report provides preliminary information on the viral hepatitis testing data collected by Federal programs in the United States. This compilation of testing data marks an initial effort to collect and analyze testing activities supported by Federal agencies. The results highlight the need for increased standardization and enhanced coordination of viral hepatitis testing in the United States.

In order to understand better the status of HBV and HCV testing and confirmatory tests conducted by federally supported programs, the VHIG partners across HHS, the DOJ, and the VA, including 12 agencies and offices within HHS, were asked to submit the following information:

Hepatitis B Testing

- Number of HBV-screening (HBsAg) tests performed
- Total number of clients served
- Number of positive HBsAg tests
- Number of newly positive clients made aware of their infection
- Years 2010 and/or 2011 requested
- Source of data provided

Hepatitis C Testing

- Number of HCV screening (antibody) tests performed
- Total number of clients served
- Number of positive HCV antibody tests
- Number of polymerase chain reaction (PCR)/viral tests performed
- Number of newly positive clients made aware of their infection
- Years 2010 and/or 2011 requested
- Source of data provided

The table below summarizes the measures reported by VHIG partners:

Table 1. Data Collected by Federal Programs Supporting HBV and HCV Testing

<i>Testing measure</i>	CDC DVH	CMS	DOJ FBOP	HRSA HAB	HRSA BPHC	IHS	OMH	SAMHSA	VA
HBV									
# HBsAg tests performed	x	x		x	x		x	x	x
# patients served		x		x			x	x	x
# positive HBsAg tests	x						x		x
# newly positive clients made aware of their infection	x						x		
HCV									
# HCV antibody tests performed	x	x		x	x		x		x

Testing measure	CDC DVH	CMS	DOJ FBOP	HRSA HAB	HRSA BPHC	IHS	OMH	SAMHSA	VA
# patients served		X		X			X		X
# positive HCV antibody tests	X						X	X	X
# HCV PCR tests performed		X					X		X
# newly positive clients made aware of their infection	X						X		

In some cases, testing and data collection efforts are the early developmental phases; in others, they are much more advanced. The measures reported were extracted from Federal health services reporting systems, EHRs, outreach and drug treatment program tracking forms, Medicare claims database, and a database for viral hepatitis testing and linkage to care. Complete data were not available from all sources, as this depended on reporting requirements, data source, program and data system capacity, and other factors. In many cases, Federal grantees, not the agencies themselves, provide viral hepatitis testing and treatment services and represent another source of variability in data reporting. Indeed, the programs and data systems they deploy often differ in their definitions, ways of counting, reporting protocols, timetables for reporting, and data management and analysis, all of which makes monitoring measures and outcomes across programs challenging. Similar issues were identified in a recent survey of federally supported HIV prevention, treatment, and care services. Defining and deploying data collection standards in viral hepatitis holds significant potential to enhance Federal efforts to chart progress in achieving the goals of the Action Plan and is a fertile area for further development.

In the coming years, the VHIG will collaborate to share best practices, identify standards, and enhance coordination of federally supported hepatitis testing data collection and reporting.

Partners Reporting Testing: Year of Report(s) and Data Source

DOJ FBOP

Currently reviewing data elements to determine what can be obtained from existing sources.

HHS CDC DVH

Data estimates reported for 2013, testing initiated December 2012. Data will be managed in a dedicated database.

CMS

Data reported for 2010 and 2011 for Medicare beneficiaries from the Chronic Condition Data Warehouse using CPT codes for viral hepatitis serology.

HRSA HAB

Data reported for 2010 from Ryan White Services Report.

HRSA BPHC

Data reported for 2010 and 2011 from the Uniform Data System using ICD9 codes.

IHS

Currently exploring methods to capture ongoing viral hepatitis testing efforts.

OMH

Data reported for 2010–2013 from grantees using a variety of data sources, including EMRs, client charts, and other testing tracking systems. Data points reported were heterogeneous across grantees.

SAMHSA Center for Substance Abuse Treatment

Data reported for 2010–2012 from grantees using a dedicated tracking form.

VA *Office of Public Health/Population Health*

Data reported for 2010–2012 from the Corporate Data Warehouse

Appendix B. Citations of Publications by Priority Area

Priority 1

Gracia JN. *Addressing viral hepatitis among minority communities.*

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Priority 2

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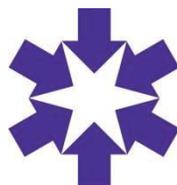
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Appendix C. Abbreviations

AETC	AIDS Education and Training Center (HRSA)
AHRQ	Agency for Healthcare Research and Quality (HHS)
AAPI	Asian American and Pacific Islander
ATTC	Addiction Technology Transfer Center (SAMHSA)
AVHPC	Adult Viral Hepatitis Prevention Coordinator
BPHC	Bureau of Primary Health Care (HRSA)
CDC	Centers for Disease Control and Prevention (HHS)
CHCANYS	Community Health Care Association of New York State
CMS	Centers for Medicare & Medicaid Services (HHS)
CROWNWeb	Consolidated Renal Operations in a Web-Enabled Network
DOJ	U.S. Department of Justice
DVH	Division of Viral Hepatitis (CDC)
ECHO	Extension for Community Healthcare Outcomes
EHR	electronic health record
ESRD	end-stage renal disease
FBOP	Federal Bureau of Prisons (DOJ)
FDA	Food and Drug Administration (HHS)
FOA	funding opportunity announcement
GRADE	<i>Grading of Recommendations Assessment, Development, and Evaluation</i>
HAB	HIV/AIDS Bureau (HRSA)
HAV	hepatitis A virus
HBV	hepatitis B virus
HCV	hepatitis C virus
HCV-TARGET	Hepatitis C Therapeutic Registry and Research Network
HEV	hepatitis E virus
HHS	U.S. Department of Health and Human Services
HRSA	Health Resources and Services Administration (HHS)
HUD	U.S. Department of Housing and Urban Development
IDU	injection drug user
IHS	Indian Health Service (HHS)

IOM	Institute of Medicine
MSM	men who have sex with men
NCHHSTP	National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
NIAAA	National Institute of Alcohol Abuse and Alcoholism (NIH)
NIAID	National Institute of Allergy and Infectious Diseases (NIH)
NICHD	Eunice Kennedy Shriver National Institute of Child Health and Human Development (NIH)
NIDA	National Institute on Drug Abuse (NIH)
NIH	National Institutes of Health (HHS)
NVPO	National Vaccine Program Office (HHS)
NYSDOH	New York State Department of Health
OHAIDP	Office of HIV/AIDS and Infectious Disease Policy (HHS)
OMH	Office of Minority Health (HHS)
PCR	polymerase chain reaction
PDPH	Philadelphia Department of Public Health
PSA	public service announcement
REDS-II	Retrovirus Epidemiology Donor Study–II
REDS-III	Recipient Epidemiology and Donor Evaluation Study–III
RFA	Request for Application
SAMHSA	Substance Abuse and Mental Health Services Administration
SCAN	Specialty Care Access Network
SPNS	Special Project of National Significance
VA	U.S. Department of Veterans Affairs
VHAP	Viral Hepatitis Action Plan
VHIG	Viral Hepatitis Action Plan Implementation Group



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