The Honorable Martin O’Malley  
Governor  
State of Maryland  
Annapolis, MD 21401-1991

The Honorable Joan Carter Conway  
Chair, Senate Education, Health, and Environmental Affairs Committee  
2 West Miller Senate Building  
Annapolis, MD 21401

The Honorable Peter A. Hammen  
Chair, House Health and Government Operations Committee  
Room 241 House Office Building  
Annapolis, MD 21401

RE: 2013 Report on DHMH Activities on Hepatitis B and Hepatitis C Prevention and Control in Maryland under Health-General Article, § 18-1002

Dear Governor O’Malley, Chair Carter Conway, and Chair Hammen:

Health-General Article §18-1002 requires the Department of Health and Mental Hygiene (the Department) to annually inform the Governor and the General Assembly about its activities relating to the prevention and control of hepatitis B (HBV) and hepatitis C (HCV) infection in Maryland. The attached is a report of the Department's activities in 2013 related to HBV and HCV prevention and control in Maryland.

I hope this information is helpful. If you have any questions or comments concerning the report, please contact Ms. Christi Megna, Assistant Director, Office of Governmental Affairs at (410) 767-6509.

Sincerely,

Joshua M. Sharfstein, M.D.  
Secretary

Enclosure

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2013 Annual Report

Implementation of Hepatitis B and Hepatitis C Prevention and Control in Maryland

Joshua M. Sharfstein, MD
Secretary
Pursuant to Health-General Article § 18-1002, this report describes the Maryland Department of Health and Mental Hygiene’s (DHMH) activities relating to the prevention and control of hepatitis B virus (HBV) infection and hepatitis C virus (HCV) infection in Maryland. DHMH’s hepatitis prevention programs are conducted within the Prevention and Health Promotion Administration (PHPA), Infectious Disease Bureau (IDB).

**Background**

**Viral Hepatitis in the United States**

According to the Centers for Disease Control and Prevention (CDC), there were nearly 18,500 deaths attributed to hepatitis B and C infection in 2010, the last year for which data is available. By 2020, more than 150,000 people are expected to have died from viral-hepatitis-associated liver cancer or end-stage liver disease in the United States. Almost half of the liver transplantations in the United States are necessitated by end-stage liver disease associated with HBV or HCV infection. HCV is the leading cause of liver transplants in the United States. Because viral hepatitis can persist for decades without symptoms, 65 percent -75 percent of infected people living in the United States remain unaware of their infection because they are not tested for the virus. Meanwhile, the virus continues to attack the liver.

An estimated 3.5 to 5.3 million people are living with chronic viral hepatitis in the United States, and of these, there are 2.7 to 3.9 million people estimated to be infected with HCV. Surveillance data suggest that about 17,000 individuals are newly infected with HCV annually in the United States. HCV and HBV are transmitted by infected blood. Therefore, many HCV infected individuals are former or current injection drug users. Historically, this population has had little or no health insurance coverage. It is estimated that 50% to 90% of injection drug users infected with Human Immunodeficiency Virus (HIV) are also infected with HCV.

Of the remaining individuals infected with viral hepatitis, it is estimated that 800,000 to 1.4 million people are living with HBV in the United States. In 2011, an estimated 18,800 people were newly infected with HBV in the United States.

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infected with HBV. HBV is spread from mother to child at the time of birth, as a consequence of incidental household exposures to infected blood, injection drug use, or sexual contact.

In the United States, viral hepatitis must be understood and addressed in the context of health disparities. HCV infection is two to three times as prevalent among African Americans as it is whites, and African American rates of HCV are twice the national average. Some populations are at higher risk for HBV infection including Asian/Pacific-Islander Americans who make-up only 4.5 percent of the U.S. population but account for more than 50% of Americans living with HBV.

Viral Hepatitis in Maryland

The primary method of HCV transmission is significant or repeated direct exposures through needles that contain contaminated blood and are used to pierce skin. While HCV transmission through blood transfusions and tissue transplants represented a significant proportion of cases 20 years ago, improved screening of the blood supply and transplanted tissue has reduced the risk of transmission through these activities to virtually zero. Since 1992, the majority of new HCV infections have been linked to the practice of sharing needles among injection drug users. Other sources of HCV infection include sexual exposure, hemodialysis exposure, occupational exposure, and perinatal exposure. Both chronic and acute symptomatic HCV infections are reportable to local health departments (LHDs) by health care providers and medical laboratories operating in Maryland.

According to national estimates, there are between 73,000 to 106,000 people living in Maryland who have been infected with HCV during their lifetime. A study on the transmission rates of HCV among injection drug users demonstrated that injection drug users are at high risk for HCV infection. The study’s findings further indicated that HCV infection occurs shortly after individuals initiate injecting illicit drugs. Maryland has a disproportionate number of injecting heroin users compared to other states. Many Marylanders living with HCV could be asymptomatic and unaware of their infection because HCV often does not cause symptoms until late in the disease’s progression.

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In 2011, there were 62 cases of acute symptomatic HBV and 35 cases of acute symptomatic HCV reported to DHMH.\textsuperscript{17} Currently, reporting focuses on acute cases of HBV and HCV due to limited surveillance capacity to track chronic cases of HBV and HCV. To address the limited surveillance capacity, Baltimore City Health Department (BCHD) has hired a full-time epidemiologist committed to viral hepatitis surveillance services for up to 50% of his time. The commitment to viral hepatitis surveillance will allow BCHD to make better use of its data and create a clearer picture of the impact of viral hepatitis in Baltimore City. The rest of the epidemiologist’s time will be spent on working with community partners to enhance hepatitis programming.

HBV is 50 to 100 times more easily transmitted than HIV.\textsuperscript{18} According to the CDC, acute HBV infection in adults, although often asymptomatic, can cause severe illness and is associated with a 0.5 – 1% risk of death from liver failure. Chronic HBV infection, which occurs when the acute infection is not cleared by the immune system, is associated with a 15% - 25% risk of premature death from liver cancer or end-stage liver disease.\textsuperscript{19}

In 2012, the acute hepatitis B infection case rate in Maryland was 0.9 per 100,000 Maryland residents. Acute hepatitis B infection rates across Maryland are the surveillance indicators available that guide efforts to focus public health interventions. In 2012, Baltimore City’s acute hepatitis B infection rate was 2.1 per 100,000, down from 2.4 per 100,000 in 2011 but still twice the rate of the average for Maryland.\textsuperscript{20}

In response to this epidemic, DHMH continues to enhance the Statewide immunization program to support adult hepatitis B vaccination efforts. This includes partnerships with BCHD, along with other LHDs and community based organizations (CBOs) to support the provision of adult hepatitis B vaccinations to uninsured individuals at-risk for HBV infection. These vaccination efforts are a part of the on-going work to address the substantial health disparities related to HBV infection that more heavily impact certain populations in Maryland such as Asian/Pacific Islander, African Americans, and African immigrants. Additionally, BCHD has implemented a new viral hepatitis testing program at the Druid Health Center in Baltimore City using CDC funds. This program will provide for viral hepatitis testing and vaccinations with hepatitis B vaccines provided by DHMH and linkage to care for viral hepatitis treatment through the Johns Hopkins Medical System. This collective partnership provides a comprehensive care package to Baltimore City residents who need viral hepatitis services.

DHMH continues to implement the Hepatitis C Advisory Council recommendations. The hepatitis program continues to work with private and community partners to maximize resources in implementation of the identified activities. 2013 activities are described below in addition to future activities anticipated for 2014.

\textsuperscript{17} Maryland Department of Health and Mental Hygiene, 2012. Cases of Selected Notifiable Conditions Reported in Maryland in 2012.
\textsuperscript{20} Maryland Department of Health and Mental Hygiene, 2012. Cases of Selected Notifiable Conditions Reported in Maryland in 2012.
DHMH Viral Hepatitis Activities - 2013

In 2013, viral hepatitis prevention and control activities conducted by DHMH included the following:

- Successful planning and implementation of the CDC-funded Hepatitis B Vaccination Pilot Program. The program includes a newly designed data collection process. This program increased the availability of hepatitis B vaccine in the State by providing funding of nearly $400,000 to DHMH to purchase a supply 14,500 doses of hepatitis B vaccine to at-risk vulnerable populations;

- Trainings to increase public education and awareness of HBV and HCV. These efforts also increased providers’ technical knowledge regarding viral hepatitis treatments and reached over 275 providers. These training events are described in detail in the Education and Awareness section of this report; and

- Continued coordination with other units of State government. This included work with the Department of Public Safety and Correctional Services to update and activate a HCV plan for the education, testing and treatment of incarcerated populations.

Utilization of Federally Funded Staff Positions

DHMH completed the first year of a three year Viral Hepatitis Prevention Coordinator (VHPC) Cooperative Agreement with the CDC. The cooperative agreement provides funding for one full-time Viral Hepatitis Prevention Program Services staff position. The VHPC’s role is to manage and coordinate programs to improve the delivery of viral hepatitis prevention services in health care settings and public health programs in Maryland. The VHPC promotes partnerships, coordinates viral hepatitis activities, provides technical assistance regarding viral hepatitis, coordinates partnerships, and participates in collaborative groups to enhance the provision of viral hepatitis programs and services in Maryland.

- The VHPC provides expert nursing consultation to health care facilities, public health agencies, LHDs, State agencies and health care providers regarding viral hepatitis. Technical assistance topics include: prevention of viral hepatitis transmission; infection control; occupational exposure to blood borne diseases; compliance with laws and regulations; where to find and access available resources; linkages with partner services; and community outreach related to integrated testing services for viral hepatitis and HIV.

- The VHPC provides administrative and technical support to the Maryland Hepatitis Coalition (the Coalition). The Coalition is a community group that includes individuals with diverse backgrounds and areas of expertise. Members include viral hepatitis specialists such as hepatologists and gastroenterologists; primary care providers; nurses; social workers; health educators; medical university staff; AIDS Education and Training Center staff; viral hepatitis clinical trials staff; CBO staff; viral hepatitis community advocates; HIV community advocates; substance abuse and mental health provider staff; Baltimore City Needle Exchange Program staff; city and state government viral hepatitis services program staff; and individuals infected
with or impacted by HBV or HCV. The Coalition meets quarterly and works to establish and maintain linkages with CBOs and treatment sites. The Coalition membership informs DHMH planning and coordination of services by identifying needed services. Additionally, coalition members provided recommendations, guidance and feedback to inform the Maryland Viral Hepatitis Action Plan.

- The VHPC also participates with Hepatitis B United, serving as one of three co-chairs with a physician and the director of a CBO. Hepatitis B United is a community initiative focused on efforts to eliminate HBV in communities throughout Maryland, especially in Asian and Asian-American populations.

- The VHPC serves as the DHMH representative to public and private sector agencies to promote the integration of HBV and HCV prevention and treatment services into existing programs. The VHPC educates professionals about viral hepatitis, attends workgroup meetings with personnel from the sexually transmitted infections, HIV and tuberculosis statewide programs and the Baltimore City Health Department, and participates in monthly Department of Public Safety and Correctional Services infection control meetings and National Alliance of State and Territorial AIDS Directors (NASTAD) Viral Hepatitis workgroup conference calls.

Implementation of the Hepatitis B Vaccination Pilot Program

The VHPC promotes adult HBV testing and HBV vaccination of vulnerable at-risk populations by partnering with LHDs and CBOs across Maryland jurisdictions. Currently, DHMH staff is coordinating a Viral Hepatitis B Vaccination Pilot Program, funded by the CDC. This program increases the availability of Hepatitis B vaccine by providing approximately $400,000 in funding to DHMH to supply 14,500 doses of hepatitis B vaccine to at-risk, vulnerable populations in Maryland. The VHPC continually conducts efforts to recruit partner sites such as LHDs, CBOs, FQHCs, Corrections Facilities, and substance abuse treatment facilities to participate in this vaccination pilot project. Currently there are 25 partners engaged in the pilot throughout the State.

Residents of Maryland who are at-risk for HBV infection span a diverse cross-section of racial and ethnic populations. Many at-risk individuals are served in sexually transmitted infection clinics, HIV clinics, immunization clinics, substance abuse clinics, and in participating LHDs. One notable DHMH collaboration is with the Baltimore City Health Department and Johns Hopkins University. This initiative provides funding for 2,500 HBV and HCV tests to at-risk individuals at the Baltimore City Health Department’s Druid Clinic. Individuals who test positive for either HBV or HCV are referred for medical treatment at the Johns Hopkins Medical System, and individuals needing vaccination will be vaccinated with vaccines supplied by the DHMH Viral Hepatitis B Vaccination Pilot Program. Partnerships and the resulting combined resources layered together provide for comprehensive services to support the patients’medical needs.

Another aspect of the Viral Hepatitis B Vaccination Pilot Program is the partnerships that are formed with CBOs throughout Maryland. These CBOs serve culturally diverse populations such as Chinese, Burmese, Vietnamese, Laotians, Hispanics, Nigerians, and other African immigrants. The CDC
recognizes that approximately one in 12 Asian and Pacific Islanders are living with chronic HBV but are not aware of their infection.\footnote{21} The inclusion of Asian American CBOs working with the State and LHDs provides an opportunity to reach these communities and provide HBV vaccines to those populations disproportionately affected by HBV. These initiatives span multiple jurisdictions in Maryland including Baltimore City and Prince George’s, Montgomery, Howard, Frederick, and Baltimore Counties. The participating Asian American CBOs use other funding sources to educate, screen and test over 5,000 at-risk individuals for HBV and link those individuals infected with HBV to treatment. Individuals who are screened and identified as needing vaccination are provided HBV vaccine.

There are new efforts underway to coordinate viral hepatitis services with individuals who hold leadership positions within minority communities that experience health care disparities related to HBV and HCV. These newly established relationships, along with guidance from the DHMH Office of Minority Health and Health Disparities, will provide the community expertise and leadership needed to guide the development of a Hepatitis B and Hepatitis C Virus Plan in 2014. This plan will lay out steps for the education, testing and treatment of high risk populations and ethnic and racial populations who are affected disproportionately by viral hepatitis. With the addition of a Viral Hepatitis B Vaccination Pilot Program Manager (to be hired in the fourth quarter of 2013) at DHMH to further promote this pilot, additional partners are expected to join this initiative throughout Maryland.

The Viral Hepatitis B Vaccination Pilot Program requires partners to electronically document adult patient vaccination data into ImmuNet, Maryland’s electronic immunization registry. ImmuNet is accessed by participating providers to verify an individual’s HBV vaccination status. The availability of this registry search prevents the duplication of HBV vaccination and provides a cost-effective and value-added measure to provider participation in this initiative.

To support partners with up-to-date resource materials related to HBV vaccination services, a toolkit for the Viral Hepatitis B Vaccination Pilot Program has been developed. The resources in the toolkit include: CDC guidance for HBV vaccination for at-risk individuals, and for individuals with diabetes mellitus; CDC guidance and recommendations for the one time testing without cause of the baby boomer population for HCV infection; immunization guidance related to HBV vaccination; vaccine storage and monitoring guidance; and the checklists and data collection tools to be used by partners participating in this project.

**Education and Awareness**

The following educational sessions and events were provided for clinicians and support staff serving populations at risk for HBV and HCV:

- From January 2013 through June 2013, DHMH supported a collaborative training effort with the Johns Hopkins AIDS Education and Training Center (AETC) for their Hepatitis Webinar Series. This series of webinar style presentations was made available to both State and national audiences.

\footnote{21} CDC, Viral Hepatitis Populations, Asian and Pacific Islanders, Chronic Hepatitis B Facts, April 11, 2013.
On April 9, 2013, the Region III STD / HIV Prevention Training Center hosted a training titled *What’s New in Baltimore*. This training included a session on HCV epidemiology, HCV education messages including the new CDC recommendations for screening the baby boomer population at least one time without identified risk factors and an update on current treatments to “cure” HCV infection. Approximately 89 individuals from the Baltimore area, including clinicians, registered nurses, social workers, health educators, and epidemiologists attended this training session. The VHPC provided educational materials and consultations about the viral hepatitis program throughout the course of this training.

On April 19, 2013, the VHPC was the nurse planner for the Maryland Viral Hepatitis Summit held in Baltimore. This was a collaborative effort with the Hepatitis Foundation International to provide a full day viral hepatitis educational forum. The VHPC was on the steering committee and collaborated on all aspects of this training event. Both HBV and HCV training sessions were provided to the audience of approximately 80 attendees from Maryland that included clinicians, nurses, health educators, substance abuse counselors, mental health counselors, and other healthcare support staff. Viral hepatitis educational literature was available to attendees.

In May 2013, Hepatitis Awareness Month activities at DHMH involved participation in a variety of media activities including a press release, twitter chats related to viral hepatitis education and information, and hepatitis educational videos shown on the TV monitors at DHMH.

On May 20, 2013, Hispanic Hepatitis Awareness Day, DHMH partnered with Family Health Centers of Baltimore-Cherry Hill, and Sisters Together and Reaching (STAR) to coordinate a health fair at the Brooklyn Library in Baltimore City. Free Hepatitis C tests, HIV tests, blood pressure, diabetes, and dental screenings were available in conjunction with Hispanic Hepatitis Awareness Day.

In June 2013, the VHPC provided the first in a series of viral hepatitis training presentations to approximately 75 registered nurses at a regional nurses meeting for the central region of Maryland at the Maryland Developmental Disabilities Administration. These nurses provide direct patient care services to patients with developmental disabilities.

In June 2013, the VHPC participated in a national focus group on African Americans and Viral Hepatitis in Washington, D. C. held by NASTAD. Individuals, including clinicians, program managers, health educators, CBOs and federal government staff from viral hepatitis programs were invited to collaborate and develop effective interventions for engaging the African American community and encouraging this population to enter into medical care and treatment for HCV.

On July 23, 2013, DHMH observed World Hepatitis Awareness Day. An employee alert and the CDC’s *Hepatitis C: Did you Know?* You Tube hepatitis video were shown on the TV monitors at DHMH.

On July 27, 2013, Department staff participated in a twitter chat hosted by CDC and the Hepatitis B Foundation to discuss hepatitis. Participants were encouraged to take the CDC assessment to assess their risk for Hepatitis at [http://www.cdc.gov/hepatitis/riskassessment/](http://www.cdc.gov/hepatitis/riskassessment/).
• The DHMH Office of Faith-based and Community Partnerships provided year-round viral hepatitis literature to all programs supported by DHMH for distribution to Marylanders, which included 45 health observances and community-based events throughout the State.

*Interagency Coordination with the Department of Public Safety and Correctional Services (DPSCS)*

The VHPC consults with DPSCS staff on a monthly basis at the DPSCS Statewide Infection Control Meeting. This meeting is attended by DPSCS medical staff and the contracted medical vendor staff that provide direct medical services, including viral hepatitis services, to the inmate population throughout Maryland. During 2013, the Protocol for the Treatment of Hepatitis C Infection in the inmate population was updated and is undergoing DPSCS administrative review.

The major change under consideration is the addition of new hepatitis C drugs, referred to as direct acting antivirals, to the treatment protocol for DPSCS. These new medications can reduce the amount of time a person is on treatment as well as increase the number of individuals cured. However, challenges remain with their use in the correctional setting. The direct acting antivirals must be taken every seven to nine hours and must be taken with a meal or snack that includes 20 grams of fat. Lockdowns and other factors may prevent the drug from being taken on schedule, and the source of fat commonly used is peanut butter to which some individuals are allergic. Also, due to severe side-effects, an inmate must be confined to the infirmary for observation when beginning these new drugs. Some facilities may not be able to accommodate these inmates in the infirmary.

These concerns regarding the use of the available direct acting antivirals in the correctional setting are extensive and challenging. In addition, new drugs will likely be available at the end of 2013 and in 2014 that may further change treatment protocols. Therefore, the protocol for HCV treatment for inmates remains under DPSCS review. However, inmates that enter the facility already taking the new direct acting antivirals will be able to continue on them to prevent treatment interruption.

With the implementation of health care reform and expanded Medicaid coverage, inmates serving time in corrections should be able to begin treatment for viral hepatitis infection in corrections and then be connected to continuation of viral hepatitis treatment services upon their return to the community. This capacity will greatly enhance the ability for DPSCS to expand its inmate treatment related to viral hepatitis services.

Historically, DPSCS limited treatment for viral hepatitis to inmates who are sentenced to several years in the penal system. The reason for this restriction was due to the need to complete the inmate HCV treatment protocol prior to the inmate’s release to the community where the inmate would no longer qualify for medical services due to lack of health insurance coverage.

**Future Activities**

2014 is expected to be a year of significant expansion for treatment of individuals infected with chronic viral hepatitis. The implementation of health care reform will provide access to medical care and treatment for those individuals who receive medical insurance through expanded coverage. The expansion of health insurance coverage will allow individuals with pre-existing viral hepatitis infection to access medical treatment. Individuals who are currently covered under Primary Adult Care (PAC)
insurance will be transferred to full Medicaid coverage under Medicaid expansion and will be able access specialty consultations for viral hepatitis medical treatment and begin treatment to be cured of viral hepatitis C infection.

Many Federally Qualified Health Centers (FQHCs) in Maryland are preparing to acquire additional patients as a result of health care reform efforts and have already hired infectious disease specialists to provide medical evaluation and treatment for patients with chronic viral hepatitis. However, the influx of additional patients with chronic viral hepatitis needing treatment may necessitate the hiring of additional medical providers who are trained to provide medical evaluation and treatment for chronic HBV and HCV.

The DHMH VHPC will provide the public health coordination needed for the launch of the telemedicine program. Additionally, the VHPC will provide viral hepatitis education regarding surveillance reporting requirements, Viral Hepatitis A (HAV) and HBV vaccination recommendations, and Hepatitis 101 training to the health care staff that work with the medical providers.

Finally, DHMH will support individuals with chronic viral hepatitis in accessing health care. The VHPC will refer individuals with chronic viral hepatitis to the Maryland Health Benefit Exchange to connect to health insurance for the treatment of chronic viral hepatitis.

**Conclusion**

Significant work has occurred over the past year to address the viral hepatitis epidemic in Maryland. In addition to the launch of the Hepatitis B vaccine program, the Department has held numerous education events and worked with other Maryland agencies to update treatment protocols. Additionally, the Viral Hepatitis Prevention Coordinator continues to build community coalitions, provide consultations to healthcare providers and the community, and work to integrate hepatitis educational efforts into HIV and other programs.

In 2014, there are expected to be many changes impacting those living with hepatitis. The federal Affordable Care Act will offer uninsured individuals access to care and treatment that was previously unavailable to them. New medications coming to market will result in new treatment regimens with lower side-effects and higher cure rates. Finally, new grant opportunities may potentially provide access to training and support for providers learning to care for their hepatitis patients. DHMH will continue to respond to these changes to work toward all Marylanders knowing their hepatitis status and having access to lifesaving health care and treatment.