Montgomery County, Maryland
Department of Health and Human Services
Asian American Health Initiative
in partnership with the
Viet Nam Medical Assistance Program

Hepatitis B Education, Screening, Vaccination, and Treatment Referral Program:
A Project in the Vietnamese American Community in Montgomery County, Maryland
(Screening, Management, Awareness, Solutions for Hepatitis B Program-SMASH B)
Supported by a Montgomery County Council Grant

Evaluation Report FY 2012

VNMAP
VIET NAM MEDICAL ASSISTANCE PROGRAM
For the good health of the community and the knowledge of the young generations

Asian American Health Initiative
Together To Build A Healthy Community

MONTGOMERY COUNTY MARYLAND

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Executive Summary

It is estimated that as many as 1.5 million Americans are living with chronic hepatitis B, a contagious liver disease caused by exposure to the hepatitis B virus (HBV). Asian Americans, who account for approximately one half of all cases of chronic hepatitis B in the United States, but only 5 percent of the total U.S. population, are significantly impacted by this preventable and treatable disease.

In Fiscal Year 2012 (FY2012), the Asian American Health Initiative (AAHI) collaborated with the Viet Nam Medical Assistance Program (VNMAP) on the second Screening, Management, Awareness, and Solutions for Hepatitis B (SMASH B) Program, providing free hepatitis B education, screening, vaccination, and treatment referral to Montgomery County adult residents, regardless of income level or insurance status. In total, 167 program participants were screened for HBV and educated about this potentially fatal disease. All participants found to be at risk for future hepatitis B infection were invited to receive the three-shot vaccination series at no cost, while individuals infected with the hepatitis B virus received a free physician consultation and referred to their primary care physician or a local clinic for follow-up care.

The FY2012 SMASH B Program has achieved success among the Vietnamese population of Montgomery County. Program feedback provided insight into both the Vietnamese American and other Asian American communities of Montgomery County, particularly with regard to attitudes and behaviors regarding health and healthcare. Through the lessons learned during the two years of this program, AAHI and other public health organizations are able to further identify gaps and continue efforts to eliminate hepatitis B disparities in the Asian American community.

I. Background

Asian Americans have been among the nation's fastest-growing racial groups for decades. Across the United States, the Asian American population is rising steadily. According to the U.S. Census Bureau, the United States' Asian American population increased by 46 percent—more than any other major racial group—between the 2000 and 2010 decennial censuses. The Census Bureau projects that by 2050 more than 40 million Americans will self-identify as Asian or Asian in combination with one or more race. If accurate, this would represent a 161 percent increase in the total Asian American population. During this same period, the Census Bureau projects the entire U.S. population to increase by only 44 percent (US Census Bureau, 2011).

In the State of Maryland, Montgomery County is home to the 8th largest Asian American population on the East coast (Advancing Justice, 2011). Montgomery County's 135,451 Asian American residents represent more than 40 percent of the state's entire Asian American population. As the state's largest county, Montgomery County is also one of its most diverse. Along with the County's Hispanic and African American populations, Asian American residents combine to form a minority-majority community, where fewer than 50 percent of residents are non-Hispanic white.

About the Asian American Health Initiative

A part of the Montgomery County Department of Health and Human Services, the Asian American Health Initiative (AAHI) was established in Fiscal Year 2005 as the first County office to address the specific health needs of the pan-Asian American community. AAHI's mission is to identify the health care needs of Asian American communities, to develop culturally competent health care services, and to implement health education programs that are accessible and available to all Asian Americans in Montgomery County. AAHI has worked determinedly to eliminate the health disparities that exist between Asian Americans and their non-Asian counterparts.

About the Viet Nam Medical Assistance Program

The Viet Nam Medical Assistance Program (VNMAP) is a 501(c)3 nonprofit organization based in Montgomery County that works to provide health care services and programs to the Vietnamese communities both in Vietnam and in the United States. Founded in 2007 by a group of professionals and college students, VNMAP is comprised of a network of medical professionals and students who are interested in community service, international medicine, and leadership. VNMAP has organized successful medical missions to Vietnam in addition to coordinating several health programs in the states.

Hepatitis B and the Asian American Community

Proclaimed a "silent killer" and "silent epidemic" by public health professionals, hepatitis B is a potentially fatal disease caused by exposure to the hepatitis B virus (HBV) that can lead to cirrhosis, liver cancer, or liver failure in chronically infected individuals. Though it is recognized as a leading human carcinogen and is the main cause of primary liver cancer worldwide (Asian Liver Center [ALC], 2011), as many as two-thirds of infected persons in the United States are unaware of their infection status and are at risk of developing serious, potentially life-threatening liver disease (ALC, 2011; Institute of Medicine [IOM], 2010). When left unmonitored and untreated, as many as 1 in 4 chronically infected adults will die from liver complications due to HBV (World Health Organization [WHO], 2010; Office of Minority Health [OMH], 2008).

Although estimates vary widely regarding the exact number of individuals chronically infected with hepatitis B, the Centers for Disease Control and Prevention (CDC) recommends that certain at-risk populations should be screened for the presence of HBV in the blood (see Table 2). Additionally, the U.S. Department of Health and Human Services (USDHHS) and the World Health Organization consider the prevalence of hepatitis B among Asian Americans to be one of the most serious ethnic health disparities in the United States today.

Table 1. Hepatitis B Key Facts:

- Hepatitis B is the most common chronic infectious disease in the world; it is considered 50-100 times more infectious than HIV (WHO, 2008).
- An estimated 600,000 – 700,000 people die each year due to complications resulting from chronic hepatitis B (WHO, 2008; OMH, 2008).
- The hepatitis B virus causes 80 percent of all primary liver cancer worldwide and is the third leading cause of cancer deaths among Asian Americans, compared to 16th among non-Hispanic whites (OMH, 2008).
- HBV is regarded as a "silent killer" because it can be asymptomatic and people often are unaware that they are infected until it reaches advanced stages (OMH, 2008).
- Although most infected adults are able to fight off a hepatitis B infection, 30 – 50 percent of children, and 90 percent of infected infants will develop chronic hepatitis B (Hepatitis B Foundation, 2005).
- Hepatitis B is both preventable and treatable.
- The HBV vaccine is so effective that the World Health Organization has called it the first "anti-cancer vaccine" (ALC, 2011). Screenings are a precursor for the life-saving vaccine.

The risk of hepatitis B among Asian Americans is significant when compared to the general population, with as many as 1 in 10 Asian Americans chronically infected, compared to 1 in 1000 Caucasian Americans (ALC, 2011; USDHHS, 2011). Although Asian and Pacific Islander Americans together account for only 5 percent of the total population of the United States, they represent more than half of the estimated 1.2 million – 1.5 million HBV cases in the country (ALC, 2011; OMH, 2008). When disaggregated by ethnicity and country of origin, 5 – 15 percent of Asian and Pacific Islander American immigrants are chronically infected (ALC, 2011). These disparities are mirrored in HBV-related morbidity and mortality rates (USDHHS, 2011).

Numerous studies conducted to assess knowledge and awareness of hepatitis B among Asian American populations have found that much of the at-risk population is misinformed regarding the means of transmission, prevalence, risk of infection, and opportunities for vaccination (IOM, 2010). Despite the widespread availability of the hepatitis B vaccine, hailed by the World Health Organization as the first "anti-cancer" vaccine (ALC, 2011), immunization rates remain low among many populations, including Asian Americans (ALC, 2011; OMH, 2008). Likewise, studies have shown that doctors who serve these populations often lack sufficient knowledge about hepatitis B or the Asian American community to effectively mitigate the risks of the disease (OMH, 2008).

Table 2. Who Should be Screened for Chronic HBV Infection?

- **Persons born in geographic regions with HBsAg prevalence of >2%**. All persons born in geographic regions with HBsAg prevalence of >2% (e.g., much of Eastern Europe, Asia, Africa, the Middle East, and the Pacific Islands) and certain indigenous populations. See Figure 1.

- **Persons with behavioral exposures to HBV** (Men who have sex with men; past or current intravenous drug users).

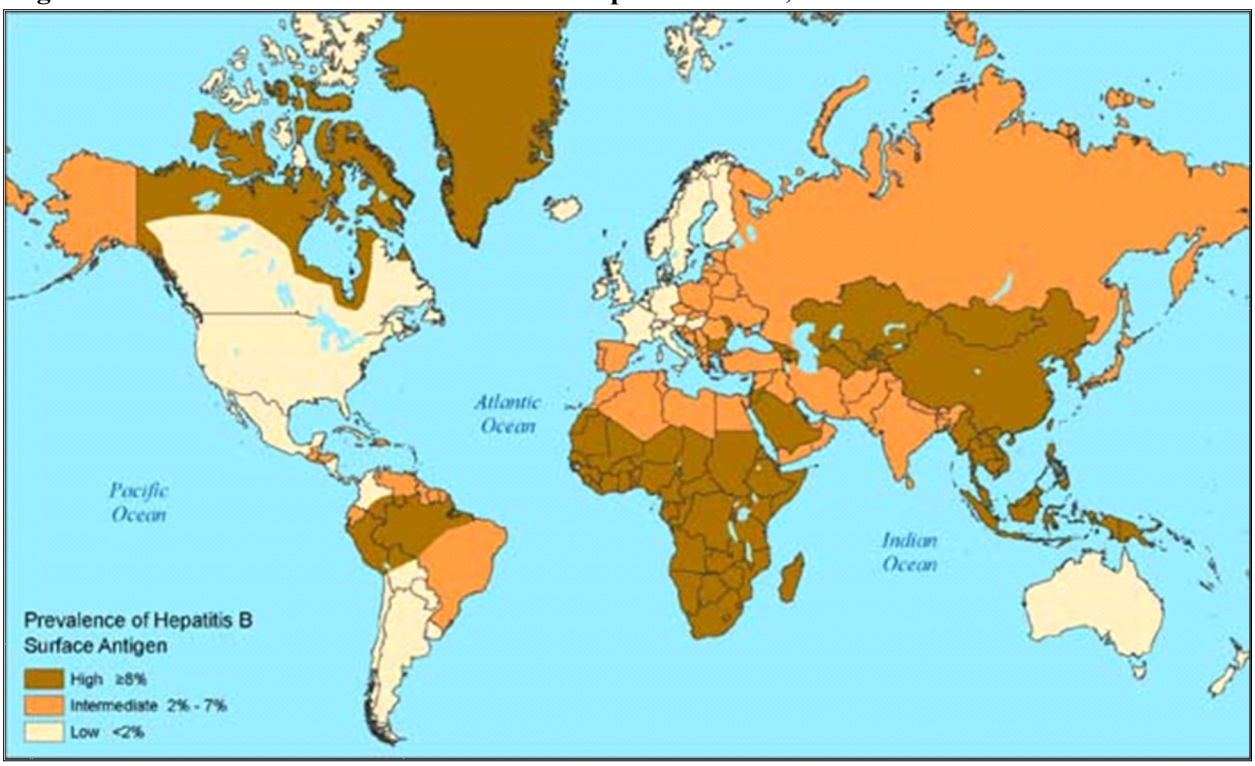
- **Persons receiving cytotoxic or immunosuppressive therapy.** Persons receiving cytotoxic or immunosuppressive therapy (e.g., chemotherapy for malignant diseases, immunosuppression related to organ transplantation, and immunosuppression for rheumatologic and gastroenterologic disorders).

- **Persons with liver disease of unknown etiology.** All persons with persistently elevated ALT or aspartate aminotransferase (AST) levels of unknown etiology.

Source: Centers for Disease Control and Prevention. (2008). Recommendations for Identification and Public Health Management of Persons with Chronic Hepatitis B Infection. MMWR. 57RR08; 1-20. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5708a1.htm

To prevent transmission of the disease and minimize the long-term health risks associated with chronic hepatitis B infection, the CDC recommends routine testing for several populations, including all individuals born in Asia, Africa, and other geographic regions with 2 percent or higher prevalence of chronic HBV infection (see Figure 1). According to the 2010 American Community Survey one-year estimates, more than 11 million residents of the United States were born in Asia, including China, Korea, Indonesia, and Vietnam, where the prevalence of chronic HBV infection is high (≥8 percent) across all socioeconomic groups.

Figure 1. Prevalence of chronic infection with hepatitis B virus, 2006



Source: Centers for Disease Control and -Prevention. (2009). *Traveler's Health*. Retrieved from http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-2/hepatitis-b.aspx

Because some persons might have been infected with HBV before they received the hepatitis B vaccination, the CDC additionally recommends testing for the following high-risk populations regardless of vaccination history:

- Persons born in geographic regions with HBV prevalence of >2%.
- U.S.-born persons not vaccinated as infants whose parents were born in regions with high HBV endemicity (>8%).
- Persons who received hepatitis B vaccination as adolescents or adults after the initiation of risk behaviors (CDC, 2008).

Economic Impact of Treating Hepatitis B

In addition to HBV-related health risks, treatment of hepatitis B has significant economic consequences. During the past 20 years, hospital fees associated with a hepatitis B diagnosis have increased fourfold, while end-stage treatment for someone with viral hepatitis can cost upward of hundreds of thousands of dollars (USDHHS, 2011). A recent study comparing costs, outcomes, and quality-adjusted life-years (QALY) as a result of early intervention demonstrated cost savings in as few as 10 years from the onset of hepatitis B (Post, et al, 2011). The study also found that early intervention significantly reduced the incidence of cirrhosis, transplant, or hepatocellular carcinoma—one of the most severe and expensive complications of chronic hepatitis B—among HBV-infected individuals and reduced the cost per QALY gained by 94 percent after twenty years.

Table 3. National Viral Hepatitis Roundtable Fact Sheet*

The medical costs associated with care for viral hepatitis include:

- Screening blood test for hepatitis B: $8
- Hepatitis B vaccination: $60 for each of 3 vaccinations
- Hepatitis B immune globulin for post-exposure prevention: $400
- HBV treatment: $2,000 – $16,000 per year

Costs associated with treating liver disease resulting from chronic hepatitis B:

- End stage liver disease: $30,980 – $110,576 per hospital admission
- Liver transplantation: $314,000 (uncomplicated cases)
- HBV infections result in an estimated $658 million in medical costs and lost wages annually

**Costs may vary*

Source: National Viral Hepatitis Roundtable. (2011). *Chronic Viral Hepatitis and Health Care Reform Principles: Fact sheet*. Retrieved from http://www.calhep.org/docuserfiles/Viral_Hepatitis_Reform.pdf

Despite public recommendations for increased screening and the associated cost of treating hepatitis B infection and correlated end-stage illnesses, each year an estimated 3,000 people in the United States die of hepatitis B-related liver disease and an estimated 43,000 new infections occur, including 1,000 infants, who will acquire the infection at birth from HBV-positive mothers (IOM, 2010). Too few at-risk or infected individuals recognize the need for testing, while fewer than half of those diagnosed with hepatitis are referred for appropriate care (Cohen, Holmberg, McMahon, et al, 2011).

Federal Action in Viral Hepatitis

In January 2010, the Institute of Medicine released an in-depth review examining the prevention and control of viral hepatitis infections in the United States. The report, *Hepatitis and Liver Cancer: A National Strategy for Prevention and Control of Hepatitis B and C*, identified serious shortcomings in the nation's current strategy to curtail the spread of viral hepatitis. The Institute's report calls attention to three primary factors that hamper efforts to combat viral hepatitis (IOM, 2010):

1. A lack of knowledge and awareness about chronic viral hepatitis on the part of healthcare and social-service providers,
2. A lack of knowledge and awareness about chronic viral hepatitis among at-risk populations, members of the public, and policymakers,
3. An insufficient understanding about the extent and seriousness of this public-health problem, resulting in inadequate public resources being allocated to prevention, control, and surveillance programs.

In response to the IOM report, the USDHHS expressed an increased commitment to ensure that "new cases of viral hepatitis are prevented and that persons who are already infected are tested; informed about their infection; and provided with counseling, care, and treatment." In the May 2011 report *Combating the Silent Epidemic: U.S. Department of Health and Human Services Action Plan for the Prevention, Care and Treatment of Viral Hepatitis*, the DHHS highlighted six topic areas—in accordance with recommendations made by the IOM—that, if fully implemented, could result in an increase in the proportion of persons who are aware of their hepatitis B virus infection from 33 percent to 66 percent, and elimination of mother-to-child transmission of HBV (USDHHS, 2011). The Viral Hepatitis Action Plan focuses on the following six topics:

1. Educating Providers and Communities to Reduce Health Disparities;
2. Improving Testing, Care, and Treatment to Prevent Liver Disease and Cancer;
3. Strengthening Surveillance to Detect Viral Hepatitis Transmission and Disease;
4. Eliminating Transmission of Vaccine-Preventable Viral Hepatitis;
5. Reducing Viral Hepatitis Caused by Drug-Use Behaviors; and
6. Protecting Patients and Workers from Health-Care Associated Viral Hepatitis.

At a special White House event to release the USDHHS report on World Hepatitis Day 2011, the Centers for Disease Control and Prevention unveiled the *Know More Hepatitis* campaign to "complement existing efforts" and "build a collective voice" around the continuing problem of viral hepatitis. As part of the growing campaign, the CDC, in partnership with the Health Resources and Services Administration and Occupational Safety and Health Administration, designated May 19, 2012 as the first-ever National Viral Hepatitis Testing Day, to remind health care practitioners and the public about the need for testing among at-risk populations.

II. Understanding and Assessing Needs

With awareness around the hepatitis B epidemic growing, the scarcity of screening and treatment services available in Montgomery County, particularly for low-income and uninsured County residents born in high-prevalence geographic areas, has become increasingly more apparent. Asian Americans who live on limited finances, lack insurance, or are limited-English proficient are particularly vulnerable. Data suggest that available services for these individuals may be underutilized among some due to an associated stigma of hepatitis B, lack of awareness regarding testing services, and other socioeconomic barriers (Hu, 2011). Similarly, individuals with insurance coverage have expressed difficulty in obtaining hepatitis B screenings because of their physician's lack of familiarity with national screening guidelines and awareness of hepatitis B prevalence among Asian Americans. Research suggests that fewer than 25 percent of HBV-infected Asian Americans have been diagnosed, while as many as 40 – 60 percent have not been screened (Hu, 2011).

Highlights of AAHI's Hepatitis B Efforts

Since AAHI's inception, hepatitis B education and outreach have been priority areas of the organization's work in the community. In addition to providing hepatitis B awareness programs directly to community members, AAHI also works with healthcare professionals and providers to offer culturally sensitive trainings concerning the specific health risks of hepatitis B among Asian Americans. Furthermore, AAHI works to ensure that healthcare screenings and treatment resources are accessible to anyone in need, regularly participating in health fairs and community events, and reaching out through various media campaigns.

As awareness surrounding Asian American health issues grew in the early part of the last decade, in 2008 AAHI further illuminated the topic through the release of a countywide health needs assessment report entitled, *Asian American Health Priorities: Strengths, Needs, and Opportunities for Action,* making a recommendation to "expand health promotion and disease prevention programs to raise awareness and level of knowledge of health issues that disproportionately affect Asian Americans." As part of a wider effort to achieve this objective, the report called for AAHI to provide hepatitis B screening and vaccination services to high-risk populations (AAHI, 2008).

In an effort to enhance access to culturally and linguistically competent hepatitis B services, AAHI has collaborated with local community-based organizations to develop a successful program model in Montgomery County. In the past few years, AAHI has been involved in several public-private partnerships to expand hepatitis B education, screening, vaccination and referral to treatment for Asian American communities in Montgomery County. To date, approximately 800 individuals have been screened for hepatitis B through these collaborative projects. Building community partnerships was integral to developing and sustaining these efforts. In addition to providing technical assistance throughout each project, AAHI also placed a strong emphasis on community empowerment and sustainability.

Table 4. Highlights of AAHI's Hepatitis B Efforts

YEAR	EVENT/PROJECT	PARTNERS
FY2005	AAHI Releases 1st Countywide Community Health Needs Assessment Report	
FY2006-2007	Hepatitis B Education and Outreach Efforts in Community	
2008	CDC Releases Recommendations for the Identification and Public Health Management of Persons with Chronic Hepatitis B Infection	
FY2008	AAHI Releases 2nd Countywide Community Health Needs Assessment Report	
FY2009	AAHI Strategic Plan 2011-2015 Development	
FY2010	Hepatitis B Education, Screening, and Referral to Vaccination and Treatment Project in the Chinese American Community	Chinese Culture and Community Service Center
FY2011	Hepatitis B Community Event	Hepatitis B Initiative of Greater Washington, D.C., Chinese Culture and Community Service Center, Chinese American Medical Society – Mid Atlantic Region, Organization of Chinese Americans – Greater D.C. Chapter, Bristol-Myers Squibb, University of Maryland's Phi Delta Sigma
FY2011	Hepatitis B Education, Screening, Vaccination, and Treatment Referral Project in the Vietnamese American Community (Screening, Management, Awareness, Solutions for Hepatitis B Program-SMASH B)	Viet Nam Medical Assistance Program
FY2012-Present	Screening, Treatment, Outreach, and Prevention of Hepatitis B Program (STOP B)	Chinese Culture and Community Service Center
FY2012	Hepatitis B Education, Screening, Vaccination, and Treatment Referral Project in the Vietnamese American Community (Screening, Management, Awareness, Solutions for Hepatitis B Program-SMASH B) Supported by a Montgomery County Council Grant	Viet Nam Medical Assistance Program, Maryland Vietnamese Mutual Association
FY2012	Hepatitis B Education, Screening, Vaccination, and Treatment Referral Project in the Korean American Community (Active Care & Treatment of Hepatitis B Program- ACT Hep B)	Korean Community Service Center of Greater Washington, Global Mission Church, Asian Pacific American Medical Students Association

Community Mobilization and Empowerment

In AAHI's *Strategic Plan 2011 – 2015: Health Equity through Action – Improving Health Outcomes for Asian Americans in Montgomery County*, a central organizational objective put forth is the promotion of community mobilization and empowerment among the County's Asian American population. Public health models emphasize the valuable roles that communities can play in the movement to eliminate health disparities, as they serve as highly influential partners in establishing health programs. Recognizing the need for community-driven hepatitis B efforts in the County, AAHI focused efforts on empowering Asian American community-based organizations to improve the health and wellbeing in their own communities. AAHI is committed to providing assistance to organizations interested in building the capacity to develop, implement, and assess innovative health programming for community benefit.

With two years of collaboration between the Viet Nam Medical Assistance Program and the Asian American Health Initiative, VNMAP is a community leader and advocate for Asian American health issues in Montgomery County. While AAHI has provided technical assistance and guidance to VNMAP during the planning, implementation, and evaluation of the SMASH B projects, both organizations have diligently worked together to enhance the network of public, private, and non-profit entities working to better health outcomes for Asian Americans in the area.

With the hepatitis B project experience in hand, VNMAP's future community leaders have benefited from the practical professional training, networking and exposure to diverse career opportunities within the field of public health. VNMAP has succeeded in mobilizing a committed volunteer base to address health and medical disparities for the Vietnamese community. VNMAP looks to expand its education and outreach efforts throughout the region to nurture an informed and self-determined community.

III. About the FY2012 SMASH B Program

Purpose: To provide culturally and linguistically competent hepatitis B education, screening, and vaccination or treatment referral for Vietnamese American adult residents of Montgomery County, Maryland.

Goals:

- To increase knowledge and awareness about hepatitis B
- To increase access to hepatitis B screening and vaccination
- To engage community members and strengthen capacity to address hepatitis B related issues
- To enhance data collection of hepatitis B

Planning and Marketing

Promotion and planning for the FY2012 SMASH B Program began months prior to the screening event, with a detailed operational plan developed to guide the months of work leading up to the screening event. During this time, AAHI and VNMAP staff and volunteers reached out to various community-based organizations, faith-based organizations, and small businesses that work with and serve Vietnamese Americans throughout the county. New to the FY2012 program, was the implementation of a satellite-based approach to registration. Prospective participants could also learn more about the program and register through another local Vietnamese American community-based partner organization, the Maryland Vietnamese Mutual Association.

Culturally and linguistically tailored information about hepatitis B and the importance of screening was disseminated through various outlets. More than 400 fliers were distributed at small businesses (e.g. nail salons, markets, and restaurants) and community centers, while marketing campaigns targeted users of ethnic (television and newspaper) and social media, such as Twitter and Facebook. Through their efforts, organizers registered more than 200 individuals for the January screening event.

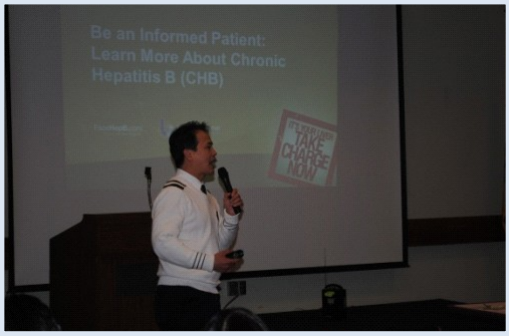
(English)

(Vietnamese)

Implementation

Education and Screening Day

The Education and Screening Day took place in January 2012 in Rockville, Maryland. A team of community volunteers, staff members, and phlebotomists set up for the four-hour event by preparing each of the four stations participants would visit throughout the day. To facilitate a smooth process, groups of 50 – 70 participants were scheduled to arrive at one of three different start times, each scheduled one hour apart.



Upon arrival, participants first checked in at the registration table where they received an individualized portfolio containing all paperwork—available in both English and Vietnamese—necessary to participate in the screening event and subsequent vaccinations. With the assistance of bilingual and bicultural volunteers, participants filled in any missing information and completed a comprehensive pre-test designed to assess each individual's knowledge, attitudes, and beliefs about hepatitis B.

Upon completing the pre-test, individuals participated in a bilingual educational seminar led by a Vietnamese American physician, selected for the program because of his familiarity with the culture and language. The seminar covered topics such as hepatitis B transmission, symptoms, treatment, and screening procedures. Three separate educational sessions were held throughout the day, which allowed for smaller, interactive seminars and shorter waiting periods for subsequent procedures. Posttests were administered after the educational presentations to evaluate the efficacy of these sessions.

After the educational seminar, participants who wished to be tested continued to the screening area where phlebotomists collected blood samples by venipuncture. Samples were sent for analysis of the hepatitis B surface antigen (HBsAg), which screens for the presence of the virus in the blood, and surface antibodies (HBsAb), which establish immunity. At the conclusion of the event, participants were invited to return to the educational area to explore the availability of social services and encouraged to complete an evaluation form. Volunteers were available throughout the event to assist participants with any and all questions regarding the project and hepatitis B.

Results Day and Follow-Up Care Coordination

The FY2012 SMASH B Program adhered to a strict follow-up procedure to ensure that all participants received and understood their clinical results and follow-up options in a timely and culturally-relevant manner. Confidential results of the screening were provided in-person during a subsequent Results Day, held at the same location one month later in February 2012.

On Results Day, participants were scheduled in advance to attend one of two educational seminars prior to receiving their test results. During the educational seminar, the bilingual physician explained all possible hepatitis B diagnoses (i.e., at-risk, immune, or infected) and respective follow-up options, and provided a basis on which at-risk and infected participants could make informed decisions about their health. Thereafter, each participant met with a volunteer physician for a one-on-one consultation to discuss their individual screening results, ask questions, and, as necessary, receive a referral to the free on-site vaccination clinic or follow-up treatment options:

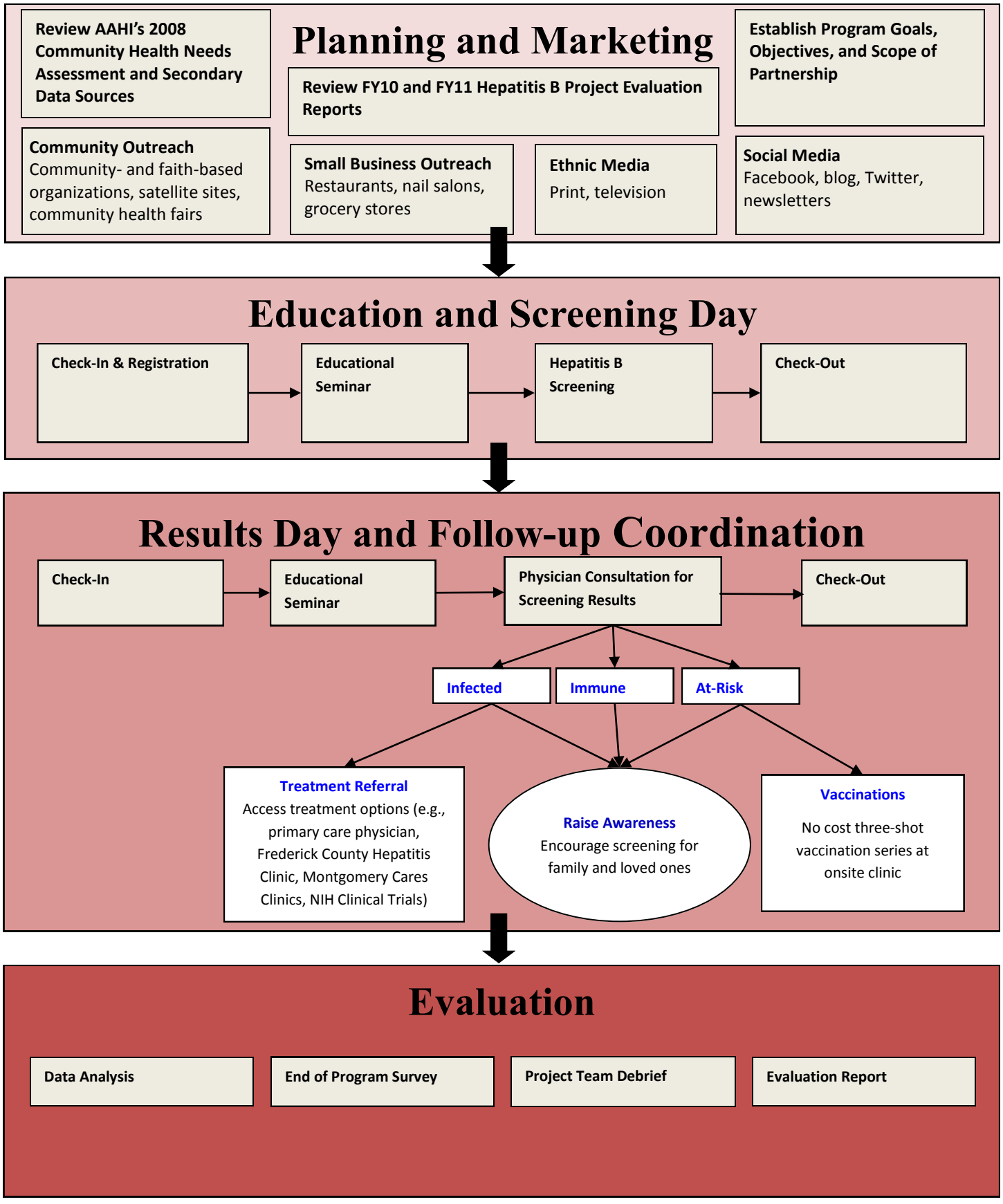
- At-Risk (Need Vaccine): Participants who tested negative for HBsAg and anti-HBs are considered susceptible to HBV infection. These participants are considered at risk and were strongly advised to receive the vaccination. Participants were encouraged to receive the first dose of the vaccine at the onsite vaccination clinic, offered at no charge through the program. A volunteer registered nurse was on hand to administer shots. Individuals then also scheduled appointments for their subsequent second and third doses, made available at no cost to program participants.
- Infected (Need Treatment): All infected participants were strongly advised to undergo further testing to determine the severity of their HBV condition. Participants were also referred to their primary care physician, if applicable, and informed of available treatment options through local hospitals and clinics, including the Frederick County Hepatitis Clinic. VNMAP provided comprehensive individual case coordination for all infected participants to access treatment, particularly for those with limited-English proficiency. VNMAP maintained frequent contact with participants during the scheduling of medical appointments at a suitable clinic.
- Immune: Individuals who tested negative for HBsAg and positive for anti-HBs are considered immune. Individuals were encouraged to promote hepatitis B awareness and screening among their family and friends and stay connected to the project team for information about free local screenings when they become available.

To ensure prompt and appropriate access to vaccination or treatment, program coordinators followed up with participants who were unable to attend the Results Day, and individual accommodations were arranged for, as needed.

Table 5. HBV Screening Result and Follow-up Coordination

Screening Result	Follow Up Coordination
At-Risk & Need Vaccine	• Advised to receive the first dose of the vaccine at the onsite vaccination clinic, offered at no charge • Registered for subsequent second and third doses, at no cost
Infected	• Advised to undergo further testing to determine severity of HBV infection • Referred to their primary care physician, if applicable, and local treatment options • Offered comprehensive individual case coordination to access treatment, including initial scheduling and subsequent medical appointments
Immune	• Encouraged to promote hepatitis B awareness and screening among their family and friends

Figure 2. Program Process Flow Chart



IV. Outcomes

About the Participants

The FY2012 SMASH B Program provided education, screening, and vaccination or treatment referral to 167 Asian Americans in Montgomery County. Participants predominantly identified as ethnic Vietnamese and 89.8 percent were born in Vietnam. The program also reached members of the Cambodian and Indonesian communities. Most participants (64.1 percent) indicated Vietnamese as their preferred language of communication. The average participant age was 46 and ranged from 18 to 85 years of age. Women accounted for 58.7 percent of all participants. Of those who reported health insurance status, 52.4 percent were uninsured. Most indicated living in a household with four or more occupants. The majority of participants learned about the event from friends and family.

Evaluation Tools

Several evaluation tools were developed—and made available in both English and Vietnamese— to assess the quality of the project. Data collected through the program will help to establish ways in which similar programs can be implemented in other at-risk communities in Montgomery County.

On the Education and Screening Day, information about participants' knowledge, attitudes, and beliefs of hepatitis B were gathered through pre- and posttests. Participants also completed a survey about their general experience throughout the Education and Screening Day at the end of the event. Six months after the initial event, a comprehensive end-of-program survey was distributed to all participants to gather overall feedback about the program and follow-up process. Questionnaires for at -risk individuals receiving vaccinations through the program were distributed and collected on-site during the third and final vaccination.

In addition to participant feedback, a focus group debrief was conducted with key project stakeholders at the conclusion of the program to further assess quality and offer recommendations for future improvements and success. The following individuals participated in the discussion:

- VNMAP Representatives: Phu Cao, Hong Nguyen
- AAHI Representative: Sanjana Quasem

Program Results

Of the 167 participants screened, 6 percent were found to be infected with HBV, 33.5 percent were unprotected and considered at-risk for future HBV infection, and 60.5 percent were determined to be immune to HBV. Among those at-risk, 94.6 percent were foreign born from an Asian country. All infected individuals were between the ages of 40 – 59 and born in Vietnam. Of those infected, 60 percent reported having no health insurance. The SMASH B Program successfully referred all ten HBV infected participants for follow-up care, of which nine accessed treatment. Additionally, 100 percent of at-risk participants were referred to vaccination options. Eighty-five percent of individuals had completed the three-shot series by August 2012.

After the educational seminar held on the Education and Screening Day, a paired test (consisting of both a pre- and posttest) was collected from 86.2 percent (144 out of 167) of participants. Approximately 46.7 percent (78 out of 167) of participants completed both tests in their entirety. The average scores of the paired pre- and posttest were 77.1 percent and 84.3 percent, respectively. Among the paired tests, 48.7 percent increased in score, 29.5 percent decreased in score, and 21.5 percent of test takers scored the same. In addition, 27 percent of individuals with paired tests scored a perfect 100 percent on both tests. Variations in scoring may be attributed to incongruence between items on the tests and the educational seminar, which was organized by a third party. Participants also mentioned the amount of paperwork and lack of interest as possible reasons for incomplete tests.

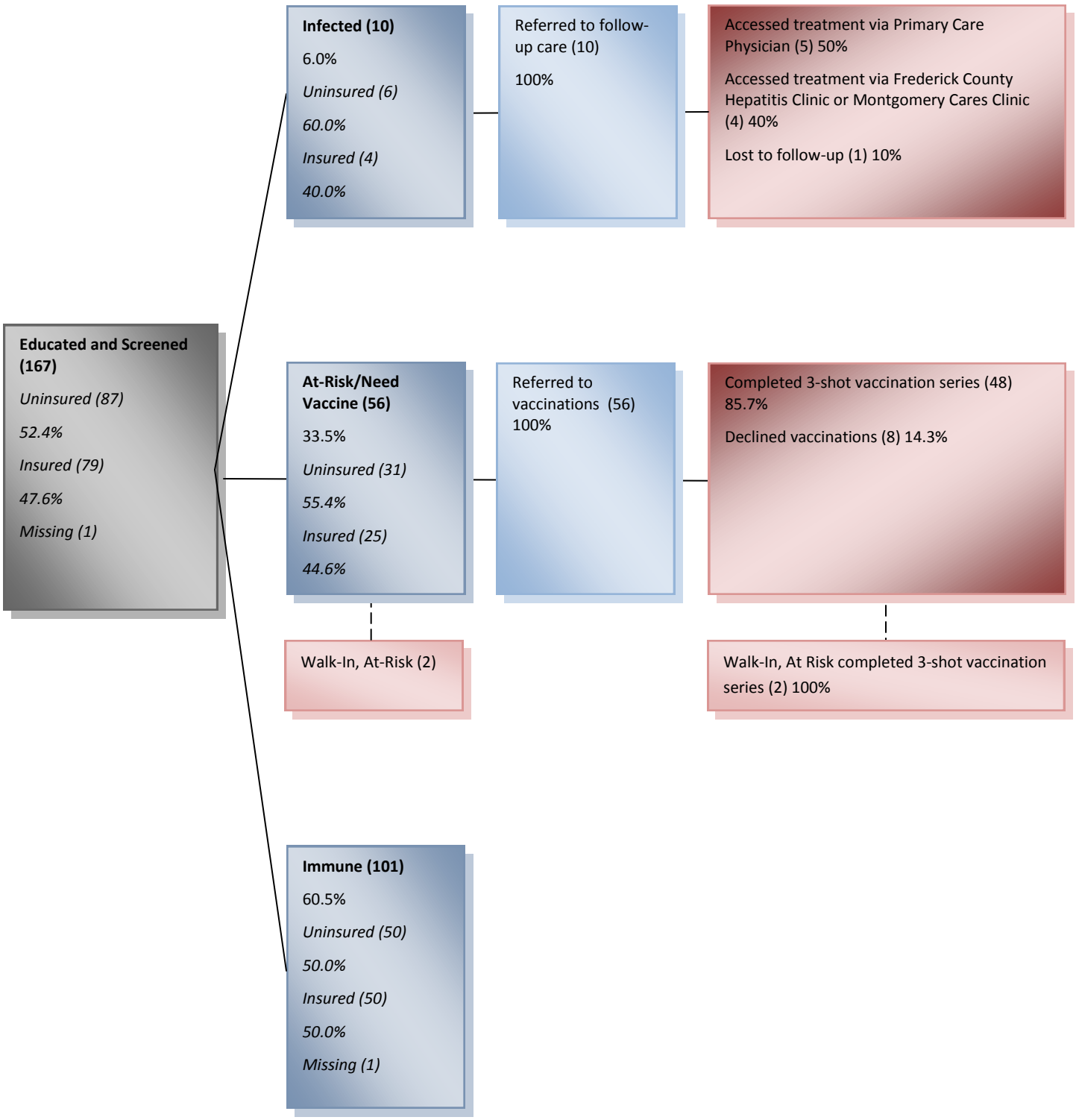
With regard to attitudes surrounding hepatitis B, the HBV vaccination, and vaccinations in general, participant feedback suggests that Vietnamese Americans continue to view hepatitis B as a significant health risk to the community, while looking favorably on preventive health measures such as vaccination. During the post-test questionnaire, more than 96 percent of respondents expressed concern about contracting hepatitis B, while 92.9 percent of respondents stated a belief that the HBV vaccination is either “very effective” (80.1 percent) or “somewhat effective” (12.8 percent) in combating the disease. Participants shared similar views on vaccinations in general. For the second straight year, the three most frequently cited reasons for coming to the screening event were: 1) “Recommendation from my family member or friend,” 2) “I want to know my own health status,” and 3) “I want to protect the health of my family.”

The overall response rate to the end-of-program survey distributed after six months was 62.9 percent. Prior to participating in the program, 51.0 percent of participants reported they were not planning to get screened for hepatitis B.

Table 6. Program Quality Measures OUTPUTS and OUTCOMES	RESULTS
Number of participants pre-registered	201
Number of participants educated and screened	167
Percentage of screened participants attended results day event	88.0%
Percentage of at-risk participants referred for vaccination	100%
Percentage of at-risk participants completed three-shot vaccination series	85.7%
Percentage of infected participants referred for follow-up care	100%
Percentage of infected participants accessed treatment	90%
Percentage of participants reporting since participating in the program, they have encouraged family and friends born in high prevalence regions (such as Vietnam) to get screened	99%

SERVICE QUALITY	RESULTS
Percentage of participants reported the pre-registration process was straightforward	99.3%
Percentage of participants reported the registration process was organized	99.3%
Percentage of participants reported the educational lecture was informative	99.3%
Percentage of participants reported the screening process was efficient	99.3%
Percentage of participants reported that the follow-up steps were explained clearly	99.3%
Percentage of participants reported understanding of the possible follow-up steps	99.3%
Percentage of participants reported overall satisfaction with the program	100%
Percentage of participants reported they would urge family and friends to participate in future SMASH B Program education and screening events	100%

Figure 3. Program Participant Follow-up Chart



V. Lessons Learned & Recommendations

Implementing Lessons Learned

During planning of the FY2012 SMASH B Program, the project team took into careful consideration lessons learned and recommendations of previous hepatitis B screening, education, and treatment referral programs. Past program evaluation reports and feedback from project partners and community participants helped inform several strategic adaptations to the FY2012 program.

- **Expand program promotion and registration process**

The FY2012 SMASH B Program included several modifications to the marketing and registration processes employed during past programs designed to enhance access to culturally and linguistically competent hepatitis B services and resources for all residents of Montgomery County. This included the implementation of a satellite-based registration, allowing prospective participants to register via a local partnering community organization. Future initiatives may consider continuing this example of community collaboration to reach a more diverse population, particularly those hardest to reach.

- **Enhance flow and agenda of Education and Screening Day**

All participants who pre-registered for the Education and Screening Day received an assigned Participant Portfolio during sign-in. Portfolios, compiled and uniquely numbered for each individual, contained all forms participants would need throughout the day. Forms in the portfolio were completed to the fullest extent possible ahead of the Screening an Education Day, while bilingual volunteers were available to assist participants to complete any missing data. As participants progressed through the event, they encountered stations that were well-staffed, trained, organized, and adaptable. To minimize delays, each station had a designated volunteer coordinator and every volunteer participated in a volunteer orientation prior to the event. During the educational seminar, participants experienced a more interactive lecture with an expanded Q&A session and opportunity to hear the personal story of a community member living with chronic hepatitis B.

- **Optimize access to existing hepatitis B services in community**

The project team connected with the recently established Screening, Treatment, Outreach, and Prevention of Hepatitis B Program. The STOP B Program provides weekly hepatitis B services at the Pan Asian Volunteer Health Clinic (PAVHC) of the Chinese Culture and Community Service Center in Gaithersburg, Maryland. The STOP B Program was able to serve SMASH B participants needing vaccinations, but unable to attend the predetermined program vaccination events. The project team worked with the STOP B Program clinic to coordinate appointments and provide translation and interpretation for Vietnamese-speaking participants as needed. The connection to the PAVHC also served as a health care entry point for eligible participants seeking a further range of medical services.

For the past two years, the project team has also strengthened its partnership with the Frederick County Hepatitis Clinic, the only viral hepatitis clinic in Maryland that provides comprehensive care for the uninsured and underinsured. Project coordinators worked with infected patients to schedule appointments, arrange for trained medical interpretation as needed, and navigate treatment options. Tapping into existing community infrastructure may optimize access to healthcare services and follow-up options for participants.

Recommendations for Future Programs

Evaluation of program data and related literature has reaffirmed the need for comprehensive hepatitis B screening, education, vaccination, and treatment referral programs in Asian American communities throughout the region and across the country. Review of the FY2012 program, substantiated by qualitative data provided by the project team, program participants, and healthcare professionals, additionally suggests that hepatitis B programs should be implemented in line with broader themes emergent in public health. Review of this information leads to the continued recommendation that future hepatitis B initiatives should endeavor to do the following:

- **Enhance access to culturally and linguistically competent hepatitis B services and resources.**

A basic tenet of the Asian American Health Initiative is that all residents of Montgomery County should have access to culturally and linguistically competent health care; however, those seeking prevention and treatment services for hepatitis B often identify inadequate resources as a significant barrier. In-language services, clinic location and operating hours, and lack of knowledge by health care providers each present challenges to the Asian American populations in search of hepatitis B screening, vaccination, and treatment.

Many Asian Americans, more than one-third of the total population, are limited-English proficient (US Census Bureau, 2011), while more than three-quarters of Asian Americans over the age of five do not speak English at home (US Census Bureau, 2010). For older members of the population, difficulties with language are compounded by unreliable access to transportation. To maximize the impact that screening and vaccination programs have in the community, organizers must assess and reinvent program delivery models in order to remain appropriate for the evolving population. Where opportunities exist, a mobile component could serve to benefit both older individuals and those who work non-traditional schedules, while new technologies could help program coordinators engage more productively with younger community members less likely to receive information from ethnic media. Planning of comprehensive events targeting specific populations should be mindful of holidays and customs that may come in conflict with program objectives.

- **Promote hepatitis B awareness and early detection among Asian Americans and healthcare professionals who serve Asian American patients.**

A precondition to meeting the need for culturally and linguistically competent care is ensuring that health care providers understand the complexities of the Asian American population and its specific health needs. Though the CDC recommends that all Asian-born residents of the United States undergo testing for hepatitis B, a 2009 study revealed that fewer than 30 percent of Asian American primary-care providers who care for Asian-American adult patients offer routine testing (USDHHS, 2011).

Physicians and healthcare professionals, especially those with Asian American clients, are also in need of hepatitis B education. Based on program data, one of the most cited reasons why participants had not been previously screened for hepatitis B was "Having never been instructed by a doctor." National research shows similar findings. According to the Institute of Medicine (2010), knowledge about hepatitis B among health care professionals is generally poor, and compliance for provider guidance for hepatitis B is low. Data from the 2009 International Symposium on Viral Hepatitis and Liver Disease showed that only 18-30 percent of Asian American primary care providers who treat Asian American adult patients reported testing them for HBV infection (IOM, 2010). Increased hepatitis B education for physicians and healthcare providers will allow for greater advances towards prevention and surveillance for this high-risk population.

To this end, both AAHI and VNMAP organize programs aimed at engaging and educating local health care providers about the Asian American community, Asian American health risks, and available resources in the County. Inviting health care providers to participate in hepatitis B screening, education, and vaccination events is one strategy to increase awareness about the population and, in turn, linking community members to local health resources.

- ✔ **Empower community-based organizations to advocate for and collaborate on hepatitis B prevention, early detection and screening, vaccination, and treatment programs for Asian Americans.**

Effective community engagement and collaboration is critical to the success of public health efforts targeting hard-to-reach populations with limited exposure to mainstream institutions and media. By empowering organizations to advocate on behalf of their constituent populations and carry out beneficial health programs, these groups gain credibility and the confidence of the communities they serve. These programs also provide an opportunity for community volunteers, interns, and other interested parties to get involved in a cause and become future champions of Asian American health issues. To encourage participation, create community ownership, and cultivate a sustained interest in hepatitis B projects, program planners must work early and often to develop strong relationships with partner organizations.

Through the continuing execution of programs like the FY2012 SMASH B Program, community members will look to organizations such as VNMAP and AAHI as trusted community allies working to build a healthier community. Together, such collaborative efforts may lead to an enhanced network of community- and faith-based organizations working towards better health outcomes and service delivery for all in Montgomery County.

- **Enhance data collection and reporting efforts.**

To better understand the needs of specific communities with regard to hepatitis B, there is a strong need for robust data that is disaggregated by Asian ethnicity, particularly at the local level. An improved data bank will assist organizations in their efforts to solicit funds, apply for grants, rally community support, and better articulate the need for services and education.

The increased emphasis on data collection has amplified the need for trained volunteers who are able to assist project participants to fill out essential forms in their entirety. With more complete and accurate data collection, the program team will be better equipped to evaluate program quality and make improvements as necessary to meet the evolving needs of the community. When preparing evaluation forms, it is recommended that planners give careful consideration to avoid overwhelming or repetitive paperwork that may decrease participant response rates.

Of equal importance to the improvement of collection methods is the dissemination of findings and data among the community and stakeholders. Whether through a formal report or scientific journal article, it is critical to share local level data in order to contribute to the larger pool of Asian American health data available. Future efforts may consider exploring obtaining institutional board reviews for formalized research and publication purposes.

- **Strengthen partnerships and collaborations**

To enhance the reach of public health efforts targeting underserved populations, effective partnerships and collaborations are critical. Public response to hepatitis B education, screening, vaccination, and treatment referral programs in Montgomery County have been supportive. On final program evaluation forms, the overwhelming majority of participants responded they would "recommend family/friends to participate in future hepatitis B education and screening events." Additionally, word-of-mouth has proven to be the single most effective method of recruitment.

To build upon the positive response to recent hepatitis B efforts, the program team may consider extending outreach and promotional efforts to engage past participants, as well as small business owners and employees interested in future programs. As demonstrated by the successful use of satellite sites for pre-registration, future outreach may consider involving more community organizations supportive of hepatitis B efforts in the community. An active network of community organizations working to improve health outcomes for Asian Americans could prove highly successful in creating sustained interest in hepatitis B screening, education, vaccination, and treatment referral initiatives in Montgomery County.

VI. Acknowledgements

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