WORK-IN-PROGRESS AND LESSONS LEARNED

Hepatitis B Screening, Vaccination, and Linkage to Care: Lessons Learned from a Mississippi Vietnamese Community

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ABSTRACT

Background: Asian-Americans and Pacific Islanders (AAPIs) are disproportionately impacted by chronic hepatitis B infection (CHBI). Long-term effects of untreated CHBI include cirrhosis of the liver, hepatocellular carcinoma (HCC), and liver failure. Approximately two-thirds of those living with CHBI are unaware of their HBV status.

Objectives: Plan, implement, and evaluate a culturally and linguistically appropriate screening, vaccination, and linkage-to-care initiative that utilized Vietnamese-speaking CHWs for care navigation among Vietnamese-Americans residing in the Mississippi coastal counties of Hancock, Harrison, and Jackson.

Methods: The initiative employed a community-based participatory framework to plan and implement the program. An active community advisory board was established and was representative of all the partners that worked together to make the initiative a success.

Results/Lessons Learned: Before program implantation, results from focus groups indicated that the Vietnamese community had low knowledge about the risk of CHBI. Additionally, there were no Vietnamese-speaking health care providers, nor primary care providers treating CHBI in the prioritized counties. A total of 505 Vietnamese individuals were screened. Half were immune by infection (n=235, 46.5%), 83 (16.4%) were immune by vaccination, 46 (9.1%) had CHBI, 130 (25.7%) were vaccine-naïve, and 40 (7.9%) were undetermined, (n=130), 101 (77.7%) received the complete 3-injection vaccine series. Five new primary care providers now provide treatment for those with CHBI. Cultural competency and community/medical interpreter training were also provided to reduce language barriers during medical encounters.

Conclusions: To ensure success, it is paramount that community input is not only solicited but that partnerships provide a space where the input informs all aspects of the program.

KEYWORDS: Hepatitis, Viral, Human, Health disparities, Community-Based Participatory Research, Immunization Programs, Vulnerable Populations

Background

Hepatitis B Infection in Asian Americans and Pacific Islanders

Hepatitis B is an infection that impacts liver function caused by the hepatitis B virus (HBV).[1] For some, HBV causes an acute illness; but for others, it can become a long-term, chronic infection. An estimated one million[2] to 2.2 million[3,4] individuals are living with chronic hepatitis B infection (CHBI) in the US. Asian Americans (AA) are disproportionately impacted by CHBI as AAPIs represent only 6% of the US population but represent 58% of Americans living with CHBI.[5] Potential long-term effects of untreated CHBI include cirrhosis of the liver, hepatocellular carcinoma (HCC), and liver failure. HCC is 60% higher in AAPIs than in non-Hispanic Whites,[6] and is the second and fifth leading cause of cancer deaths among AAPI men and women respectively.[7] Prevalence estimates of CHBI among foreign-born individuals residing in the US whose country of origin is Vietnam ranging from 12.48% nationally,[8] to 13.8% in a sample of Vietnamese Americans residing in California who attended a screening event.[9] Approximately two-thirds of those living with CHBI are unaware of their HBV status.[2] One systematic review of 23 studies found that Vietnamese Americans had the lowest screening rates for HBV of all AAPIs.[10]

Screening, Vaccination, and Care Linkage for HBV

Reducing the prevalence of CHBI is a national priority. The National Viral Hepatitis Action Plan[11] includes four overarching goals: to prevent new viral hepatitis infections, reduce deaths and improve the health of people living with viral hepatitis, reduce viral hepatitis health disparities, and coordinate, monitor, and report on the implementation of viral hepatitis activities.

The American College of Physician's High-Value Care Task Force, in partnership with the Centers for Disease Control and Prevention, provided recommendations that represent consensus across practice guidelines. In summary, the recommendations include vaccination against HBV for anyone who is vaccine-naïve and at risk for infection, screening for HBV in high-risk populations, and for all patients identified with CHBI, providing linkage-to-care in the form of posttest counseling and directed care. Even though screening and vaccination are cost-effective, they are often underutilized by high-risk populations.[12,13]

Community-Based Participatory Research

Community-Based Participatory Research (CBPR) is defined as a "collaborative approach to research, which equitably involves all partners in the research process and recognizes the unique strengths that each brings. Israel et al. define CBPR as focusing on social, structural, and physical environmental inequities by actively involving community members through all aspects of the research process.[14] The CBPR approach has been found to be effective in reducing health disparities among underrepresented groups,[15] and has been used successfully to increase screening and vaccination rates for HBV.[16–18]

Test to Protect Family and Self

In 2015, the Mississippi State Department of Health (MSDH), Office of Health Disparity Elimination (OHDE) (now the Office of Preventive Health and Health Equity) received a five-year State Partnership Initiative to Address Health Disparities Grant from the Health and Human Services Office of Minority Health to address health disparities associated with HBV in three coastal counties in south Mississippi. The program was titled, *Test to Protect Family and Self: A*

Hepatitis B Project in the Vietnamese Communities of Harrison, Hancock, and Jackson Counties. The title of the program is reflective of the importance of the family unit above self in Vietnamese culture.[19] The programmatic goal of the initiative was to increase participation in HBV vaccination and link chronically infected individuals to follow-up care through patient navigation facilitated by Vietnamese-speaking Community Health Workers (CHWs) for the Vietnamese community on the Mississippi Gulf Coast (MSGC). The objective of this manuscript is to describe the process utilized to plan, implement, and evaluate this culturally and linguistically appropriate screening, vaccination, and linkage-to-care initiative that utilized Vietnamese-speaking CHWs for care navigation among Vietnamese-Americans residing in the Mississippi coastal counties of Hancock, Harrison, and Jackson; and to describe lessons learned throughout those processes.

Methods

Data collection methods and the project protocols were approved by the Institutional Review Board at the Mississippi State Department of Health. Before engaging in program-related activities, participants were provided informed consent documents. Documents were presented in English and Vietnamese, and interpreters were on-site at all events to assist with further explanations about program risks and benefits as necessary. Program staff were trained on data collection in the field and followed procedures to ensure that data were secure, and that participants' information remained confidential.

Program planning was informed by a previous pilot HBV screening initiative funded by the MSDH. This data indicated that the counties of Hancock, Harrison, and Jackson had large Vietnamese communities that had higher rates of HBV than did the general population. These

pilot data were utilized to apply for funding for the larger five-year initiative. In year one of the project, the Community Advisory Board (CAB) was established and consisted of several community partners that had been involved in the pilot study. Also, focus groups were conducted within the Vietnamese communities in the prioritized counties. This formative research was utilized to inform the creation of a Health Disparity Profile (HDP) for hepatitis B, and planning around the key components of the Test to Protect Family and Self initiative including the production of culturally and linguistically appropriate recruiting materials; and channels utilized for promotion of educational, screening, and vaccination events. HBV screening and vaccination began in year two and continued through year five. Participants who were vaccine-naïve were offered vaccinations and followed by a Vietnamese-speaking CHW partner who assisted with scheduling and sending reminders about appointments for the three-immunization series. Those that were CHBI were offered participation in a one-year follow-up program whereby they were assisted by a CHW to receive linkage to treatment, medical interpreter services, and transportation services to appointments with their healthcare provider. These activities and others are described in greater detail below.

Program Activities

Community Advisory Board (CAB). The CAB was established in year one and met quarterly throughout the initiative. A description of CAB partners, their roles, and collaboration history can be found in Table 1.

Table 1: Description of CAB Partners, Their Roles in the Project, and Collaboration History

CAB Partners	Description of Partners	Roles of Partner Organizations	History of Collaboration
Boat People SOS (BPSOS)	• Established in 2006 • Local branch of the national nonprofit • Mission: to "empower, organize and equip Vietnamese individuals	• Helped mobilize Vietnamese community members to participate in screenings and results sessions • Trained as community interpreters for the “Bridging the Gap” Interpreter Training Program	From 2011-2014, the MSDH Office of Health Equity partnered with BPSOS to conduct Hepatitis B and C screenings. This project was funded by the state of MS. The results from this pilot project

	and communities in their pursuit of liberty and dignity"	• Facilitated cultural competency workshops with healthcare providers • CHWs ensured participants completed the entire 3-injection series • Linked those with CHBI with follow-up care • Helped uninsured participants gain access to insurance through the federal insurance exchange	were used to secure funding from the Health and Human Services Office of Minority Health to scale up the program in the geographic hot spots of Harrison, Hancock, and Jackson counties. MSDH, again partnered with Boat People SOS for the *Test to Protect Family and Self* Project.
Mercy Housing and Human Development (MHHD)	• Non-profit community development financial institution (CDFI) • Assists families with first-time home purchases	• Provided health education to the Vietnamese communities in the prioritized counties • Helped recruit participants for HBV screenings • CHWs ensured participants completed the entire 3-injection series • Linked those with CHBI with follow-up care • Helped uninsured participants gain access to insurance through the federal insurance exchange • Served as interpreters at the screening sites • CHW was a trainer for the "Bridging the Gap" Interpreter Training Program (offered once yearly)	MSDH developed a relationship with MHHD which was centered on offering the "Bridging the Gap" Interpreter Training Program. MSDH hosted a train-the-trainer course in Mississippi. MHHD signed on and committed to help train other interpreters statewide. In addition, MHHD's and BPSOS's CHWs, all members of the Vietnamese community, had worked together on several projects.
Digestive Health Center (DHC)	• Provide healthcare for gastrointestinal illnesses • In existence on the MSGC for 25 years	• Provided care for participants with CHBI • CHWs from both BPSOS and MHHD worked with DHC to HBV+ patients	In the previous pilot project, DHC was listed as a resource for pilot project participants. The pilot project did not have a follow-up component for those diagnosed with CHBI. Therefore, the CAB members tried to strengthen this relationship throughout the current initiative. At least one healthcare provider from Digestive Healthcare participated in the CAB as a medical resource.
MSDH Public Health Laboratory (MSPHL)	• In operation since 1910 • MS's only public health laboratory • Perform testing associated with environmental monitoring, disease detection, chronic disease, and maternal/child screening	• Performed all HBV serologic tests on screening samples	MSPHL is part of the MSDH.

MSDH Office of Health Disparity Elimination (MSDH OHDE)	• One of three offices in MSDH's Office of Health Promotion and Health Equity • Mission: to identify health inequities and their root causes and to promote evidence-based solutions to create a more equitable system	• OHDE director was responsible for convening and sustaining the CAB during the initiative • Only licensed provider in MS for *Closing the Gap Cross-Cultural Competency Training* and *Bridging the Gap* Medical Interpreter Training • Provided *Chronic Disease Self-Management* (CDSM) training to participants	The Office of Health Disparity Elimination falls under the umbrella of MSDH.
Mississippi State Department of Health Southern Public Health Region (SPHR)	• Provides public health services to residents of Hancock, Harrison, and Jackson Counties.	• Disease Intervention Specialists (DISs) assisted in collecting samples to be screened • Transported samples to MSPHL for testing • The MSDH Epidemiology Nurse (EN) provided test results and one-on-one post-test counseling • A Vietnamese-speaking CHW was housed at the MSDH SPHR and served as the project coordinator (PC) • PC collaborated with BPSOS, MHHD, and the SRPH office to plan screening events, monitor data collection, maintain the database of results, plan results sessions, and coordinate program activities	MSDH SPHR, which includes the counties of Hancock, Jackson, and Harrison, is part of the local MSDH centralized system and maintains a relationship with the Office of Health Disparity Elimination at the state level.
Coastal Family Health (CFH)	• Federally qualified health center (FQHC) • Mission: to provide quality comprehensive patient-centered care to the community regardless of economic status.	• Provided direct medical care to participants with CHBI • Re-screened individuals whose HBV status was found to be undetermined • Increased capacity to serve the prioritized population by ensuring general healthcare providers were trained to treat CHBI	MSDH has partnered with CFH on several projects. CFH provided a CHW who served as a member of the CAB throughout the five-year initiative.
University of Southern Mississippi (USM)	• University located in Hattiesburg, Mississippi • Houses one of two accredited public health programs in the state of Mississippi • Satellite campus on the MSGC	• The independent evaluator, at the time, a USM faculty member, was contracted to provide a comprehensive evaluation for the project.	The evaluator and the PI of the project have worked on numerous projects together that serve to promote health equity in the state of Mississippi.

Focus groups. During year one, focus groups were conducted with first- and second-generation Vietnamese community members residing in Hancock, Harrison, and Jackson counties to

examine perceptions of available healthcare services, and knowledge, beliefs, and attitudes regarding HBV and screening.[20] Participants were asked to describe how they usually received health information, and their preferences for strategies that could be used to increase knowledge about HBV, available community resources, appropriate communication channels, community locations frequented by community members that might be appropriate for educational and screening sessions, barriers to participation in previous initiatives prioritizing the Vietnamese population.

Staff from BPSOS were provided training to facilitate the focus groups. Focus groups were conducted in Vietnamese, recorded, and transcribed from Vietnamese to English. Three focus groups were conducted with 10-12 participants in each group.

Focus groups were held in places familiar to the Vietnamese community. Once the data from the focus group were transcribed in English, focus group data were analyzed by an independent contractor who had recently conducted work with BPSOS after the British Petroleum Deepwater Horizon Oil Spill. Data from the focus groups were used to inform the Health Disparity Profile. In year two, the partners shared findings from the focus groups with the communities in the three counties and with key stakeholders. The findings were used to inform the HBV screening initiative implemented in year two.

Health Disparity Profile. In year one of the program, a HDP for HBV among Vietnamese adults in the three prioritized counties was created.[21] The profile described the increased burden of disease among AAs. Data from a pre-initiative pilot screening program was included so that individuals could gain a better understanding of their risk of CHBI. Additionally, the infographic included statements describing the health disparities that exist concerning HBV, CHBI, and AAs.

The HDP, printed in English and Vietnamese, was disseminated broadly to places frequented by Vietnamese community members, at health fairs, during HBV educational sessions, and on the MSDH website.

Culturally and Linguistically Appropriate (CLA) Recruiting Materials. Prior to implementing the initiative in year two, CLA program materials were developed. Recruitment flyers were created in Vietnamese and English and informed by input from Vietnamese members of the CAB. Advertisements for screening events were placed in the Vietnamese community newspaper, *Little Saigon*. Additionally, the OHDE worked with MSPHL to design a demographic survey that was distributed at screening events. This survey was made available in English and Vietnamese. All materials, once created, were reviewed by Vietnamese community members and Vietnamese-speaking CHWs from MHHD and BPSOS on the CAB.

Screening, Vaccination, and Linkage-to-care. The screening, vaccination, and linkage-to-care program was implemented in year two and continued through the first quarter of year five (Figure 1). Screening events were held quarterly in locations identified by the CAB as places where the community frequently gathered. Screening events were held at churches frequently attended by the members of the Vietnamese community, The Buddhist Temple, and at the BPSOS office. Screening events were also held in conjunction with community cultural events. Screening events were advertised through the *Little Saigon* newspaper and church bulletins. BPSOS, MHHD, and CFH also promoted the screening programs to their Vietnamese clients.

Participants were categorized as immune by previous infection with HBV, immune by previous vaccination for HBV, vaccine-naïve, chronically infected, or undetermined. Participants were invited to a results session facilitated by trained medical interpreters where

they received a paper copy of their results and one-on-one posttest counseling from the EN. Those unable to attend were mailed results along with information explaining how to contact the EN if they needed an explanation of their results. If the participant was vaccine-naïve, chronically infected, or undetermined, they were provided case management services for at least one year post-screening by a Vietnamese-speaking CHW, and were invited to participate in the vaccination program or linked to a healthcare provider for treatment and monitoring of CHBI. Individuals who were of undetermined status were rescreened by CFHC and entered back into the process flow (Figure 1) depending on their status. CHWs also provided medical interpretation services during appointments and assisted with reminders and transportation as needed.

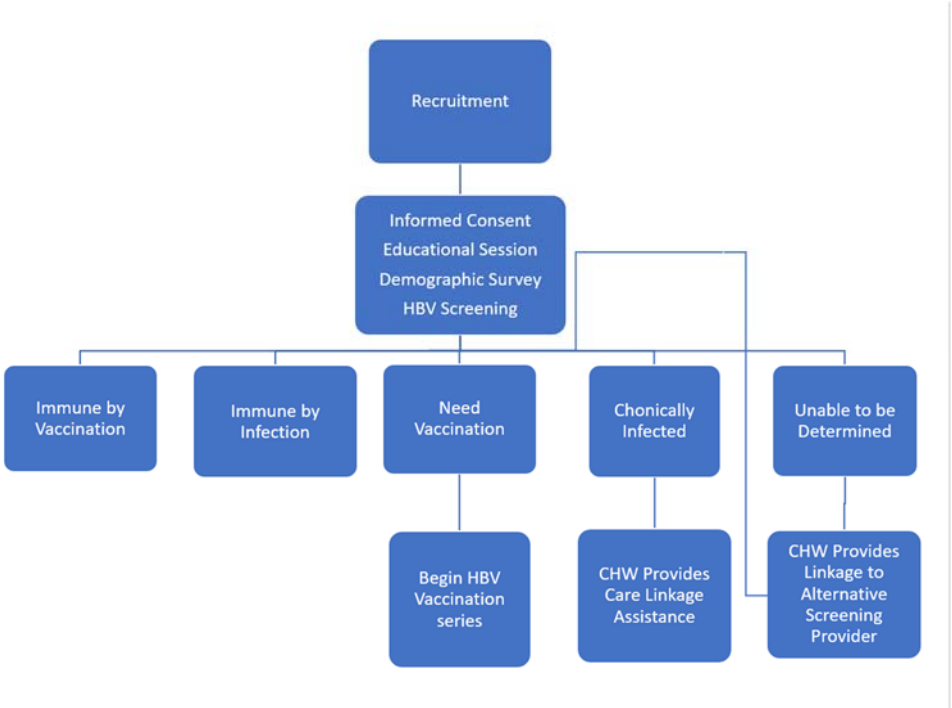

Figure 1: Screening, Vaccination, and Linkage-to-care Process, Years 2-5

Affordable Care Act Navigation

During years two through four, BPSOS and MHHD staff provided education about the ACA and navigation assistance in enrolling in the Health Insurance Marketplace. Though the screening and vaccinations were free, participants needed insurance to access linkage-to-care services in the event they had CHBI. Further, other chronic diseases (diabetes, hypertension, and cardiovascular disease) are prevalent in the Vietnamese community. Increasing participation in insurance programs allowed participants to engage in routine chronic disease management rather than seeking emergency care when their conditions worsened.

Individual, Community, and Provider Capacity Building

Beginning in year two BPSOS and MHHD staff received training so they could conduct CDSM programs with participants. Managing chronic illnesses such as high blood pressure or diabetes was a community concern that was consistently shared during the focus groups. The curriculum was developed by researchers at Stanford University[22] and aims to build individual capacity by building participants' confidence in managing their health. Because the curriculum was not available in Vietnamese, the project team secured permission from program developers to translate materials so that it would be CLA for participants. MSDH contracted with a previously established vendor who was already working to translate health documents and other information. Their contract was modified to include the translation of the CDSM curriculum from English to Vietnamese. The vendor had qualified Vietnamese translators who ensured the content was culturally and linguistically appropriate. Additionally, the translated materials were

reviewed by the Vietnamese CHWs at BPSOS, MHHD, and SRPH to ensure cultural relevancy prior to program implementation.

Community and Provider capacity-building activities consisted of participating in the "Bridging the Gap Interpreter Training" and Cultural Competency Training. Medical interpreters increase the quality of care, patient satisfaction, and patient safety for Limited English Proficient (LEP) persons, and can lower the cost of care over time.[23] The interpreter training course consisted of 40 hours of community interpreter training and seven hours of medical interpreter training. MSDH hosted a train-the-trainer workshop attended by the CHWs from BPSOS and MHHD. Once trained as facilitators, they were able to train individuals interested in interpreting in the prioritized counties. It was important to build the cultural and linguistic competency of interpreters providing services to the Vietnamese community because there are no Vietnamese-speaking physicians in the project area. Throughout the initiative, various educational opportunities with topics relevant to the Vietnamese community were organized as healthcare provider educational offerings.

Results

Community Advisory Board

The CAB was the true driver of success for the entire initiative. The CAB was made up of key stakeholders who could provide community-informed solutions to challenges that were encountered. When concerns surfaced that were outside the scope of CAB membership, guest speakers representing other community-driven HBV prevention and screening programs were sought out so that we could fill knowledge or process gaps. There were several instances where

advice from the CAB was sought. For example, prior to the implementation of the screening, vaccination, and linkage-to-care phase of the program, the CAB members representing the Vietnamese community provided extensive input on appropriate locations to hold screenings and opportunities for distribution of recruiting materials. CAB members assisted in developing the overall flow of the screening process which involved planning for event staffing, result sessions, vaccine series initiation and completion, care linkage for those with CHBI, and resolving those with undetermined status.

The original program plan called for quarterly mass screenings. After the first mass screening, the CAB met to discuss successes and challenges from the event. Though the event was successful, partners voiced concerns about recruiting the number of individuals required for regular mass screening and providing adequate staff. The CAB discussed the issue, determined that the program could accommodate two mass screenings annually, but would also host several smaller screening events in the community that varied by time and place to better accommodate a variety of work schedules. These would require less staffing since fewer individuals at one time were completing the informed consent documents, the demographic survey, attending the educational session and participating in screening.

Another challenge was getting participants to attend the initial vaccination session. They were attending the screening event, coming back for the results session, and were being scheduled, but failing to attend the initial vaccine session. The CAB suggested we provide the first injection in the series at the results session. Participants were also assigned a CHW case manager who scheduled them for the second injection and followed up with appointment reminders. This greatly improved participation in the vaccination program.

It was initially difficult to find an appropriate place to provide screenings in Hancock County. Participants from Hancock County would travel to Harrison County to participate in screening events there. The CAB discussed this, and ultimately a community partner recommended the use of their organization's Mobile Medical Unit. This allowed the program to fully service individuals in Hancock County.

CAB members were also active in results dissemination. Vietnamese representatives on the CAB presented findings at local (MS Public Health Association), regional (Xavier University of Louisiana College of Pharmacy CMHDRE's 12th Health Disparities Conference), and national conferences (Unity CHW Conference, American Public Health Association).

Focus Groups

Focus groups conducted in the first year[20] indicated that there was a great need for medical interpreters due to a lack of Vietnamese-speaking healthcare providers on the MSGC, and that most community members needing interpretation services were relying on family members. This is not ideal as they have often not been formally trained as medical interpreters, and family interpretation can be burdensome as it requires them to miss work. Many community members are uninsured/underinsured and seek care only when symptoms threaten their ability to work. Findings suggest that there is limited knowledge about HBV in the Vietnamese community and that HBV is not an immediate health concern. Most were unaware of their elevated risk of CHBI and associated complications.

Screening, Vaccination, and Linkage-to-care

Throughout the initiative, 505 Vietnamese individuals were screened for HBV and completed the demographic survey which was distributed to everyone who participated in the screening events (Table 2). The majority of participants were age 60-69 (n=136, 26.93%), married, (n=311, 68.35%), had less than a high school education (n=312, 69.80%), a household income of less than $14,999 annually, and reported living in the US for 16 years or more (n=301, 66.30%). Approximately three-fourths (n=342, 74.19%) reported that they currently have health insurance. Among those screened for HBV (n=505), almost half were immune by infection (n=235, 46.5%), 83 (16.4%) were immune by previous vaccination, 46 (9.1%) had CHBI, 130 (25.7%) were vaccine-naïve, and 40 (7.9%) were undetermined. Among those needing the vaccine (n=130), 101 (77.7%) received the complete 3-injection vaccine series. Seven (7) received 2 of the 3-injection series, 8 received the first injection of three, and 14 never began the injection series. Among those with CHBI, only half (n=23) consented to being linked to CHW-assisted case management.

Table 2: Demographic Data from Screening Participants (n=505)

Category	n (%)
Age (n=505)	
18-29	31 (6.14)
30-39	55 (10.89)
40-49	100 (19.80)
50-59	128 (25.35)
60-69	136 (26.93)
70-79	49 (9.70)
80+	6 (1.19)
Marital Status (n=455)	
Single	88 (19.34)
Married	311(68.35)
Divorced, Separated, Widowed	56 (12.31)
Education Completed (n=447)	
Less than High School	312 (69.80)
High School Graduate / GED	90 (20.13)
Some College	31 (6.94)
College Graduate	9 (2.01)
Graduate School	5 (1.12)
Annual Household Income (n=435)	
Less than $14,999	189 (43.45)
$15,000 - $24,999	119 (27.36)
$25,000 - $34,999	81 (18.62)
$35,000 - $49,999	25 (5.75)
$50,000 or more	21(4.83)
Health Insurance (n=461)	
Yes	342 (74.19)
How Long Participant Has Lived in the US (n=454)	
1-5 Years	67 (14.76)
6-10 Years	56 (12.33)
11-15 Years	30 (6.61)
16 Years or More	301 (66.30)
HBV Status (n=505)	
Immune by Infection	235 (46.53)
Immune by Previous Vaccination	83 (16.44)
CHBI	46 (9.11)
Vaccine-naïve	130 (25.74)
Undetermined	40 (7.92)

Individual, Community, and Provider Capacity Building

A train-the-trainer model was utilized to train Vietnamese CHWs from BPSOS and MHHD (n=4) to teach the CDSM course. Hosting a leaders' training where peers from the community acquired the skills to teach the program helped to sustain evidence-based interventions in the community. The "Bridging the Gap Interpreter Training" was provided on three different occasions in years 3 and 4. Cultural Competency Training was provided on 4 occasions during years 3 and 4. Throughout the initiative, various educational opportunities were offered to healthcare providers. These events focused on topics relevant to the Vietnamese community. Approximately 100 healthcare providers attended the sessions. By evaluating healthcare providers pre-and post-training, the project team learned that some primary care providers were uncomfortable treating CHBI patients; however, from the training, providers learned that patients without the advanced disease can be successfully treated and monitored by a primary care provider or nurse practitioner. One healthcare provider training session focused on CHBI management and sought to increase health professionals' self-efficacy in managing patients with CHBI. Often, individuals with CHBI are referred to a specialty physician. This extends the referral process, delays assessment, and treatment, and increases the cost for the patient. Immediately after the training, a primary care provider at CFH, the FQHC that serves the prioritized counties, began seeing patients with CHBI. There are now five primary care providers who regularly see patients with CHBI at CFH.

Discussion and Lessons Learned

There were several lessons learned throughout the initiative. The first lesson is that it is imperative to implement a well-functioning CAB that includes representation of all program stakeholders, especially the community members that the program serves. This was the main

driver of success in the Test to Protect Family and Self-initiative. The CAB helped to ensure that CBPR principles were adhered to and that the screening and vaccination program was community-informed. The information gained from the focus groups conducted in the Vietnamese community informed the strategies utilized for messaging, and the channels utilized to disseminate information to the public. They also helped determine the location that screenings and vaccination sessions would be held.

In another study,[16] a CAB was created to drive the planning and implementation of a clustered randomized control trial to evaluate a hepatitis screening initiative involving Korean Americans. Their CAB consisted of representatives from community-based organizations, Korean churches, health care providers, and an academic institution. They also included a bilingual community coordinator. The CAB helped to ensure that the program adhered to the principles of CBPR and that the program was community-informed.

The Test to Protect Family and Self initiative was strengthened by utilizing a multi-layered approach to promote screening and linkage to care and build the capacity of individuals and healthcare providers in the community. Vietnamese community members were trained as focus group facilitators, CDSM trainers, Cultural Competency Trainers, and Medical Interpreters. They also served as CHWs to provide support to other Vietnamese community members to keep appointments for the 3-injection series, to gain access to further testing if their screening status was undetermined, or if an individual was found to be CHBI and needed help navigating the healthcare system for treatment or monitoring. They also provided community education and ACA navigation. This multi-layered approach has shown to be successful in other programs promoting HBV screening and vaccination participation. For example, in a

community-based randomized trial of HBV screening among high-risk Vietnamese Americans,[24] 36 community-based organizations were randomly assigned to either intervention or control. The intervention condition included "group education, navigation services, engagement of community leaders, and health care providers in advocacy and referrals." This program also utilized bilingual community health educators. The control condition lacked navigation, and provided broader-based cancer education, though HBV screening was directly encouraged. HBV screening behavior was assessed at six months. In the intervention group, 88.12% of individuals had participated in HBV screening compared to 4.61% of the control group. The community-based culturally appropriate multilevel HBV screening intervention had significant positive effects on HBV screening rates in the Vietnamese population.

Next, increasing the primary healthcare providers' capacity to monitor and treat CHBI was imperative. It wasn't enough to educate the community on the dangers of CHBI if they couldn't access care at a level they could afford. Specialty healthcare providers were often farther away than primary care providers and put simply, they cost more. Training primary provider staff at the local FQHC, where they have established trust with the Vietnamese community, ensures that those with CHBI can access affordable care in their local community. Increasing the providers' competence in monitoring and treating CHBI ensures that patients receive quality care. In a study of healthcare providers in San Francisco, 277 providers were surveyed to determine factors associated with adherence to guidelines related to HBV screening, vaccination, and disease monitoring.[25] Approximately 40% of respondents reported that they were unfamiliar with the Association for the Study of Liver Diseases (AASLD) guidelines for HBV management. Approximately one-third were unaware that high HBV viral loads are associated with increased

risk of cirrhosis of the liver, and that HCC can occur even when cirrhosis is not present. This indicates that it is important to engage primary care providers in education around best practices for treatment and monitoring of CHBI.

This article presented lessons learned from a five-year initiative to increase HBV screening and vaccination in the MSGC Vietnamese community. We presented a CBPR approach that involved community members in all aspects of the program- from planning through implementation while conducting a comprehensive evaluation, disseminating findings, and working toward sustainability.

Our initiative determined that the CHBI rate in the MSGC Vietnamese community was 9.1%, which was significantly lower than the two estimates we were able to find in the existing literature (12.48% nationally,[8] to 13.8% in a California sample).[9] Our data was based on a convenience sample of Vietnamese community members who attended screening sessions. Our prevalence may underrepresent the true prevalence in the community. For example, we had 7.9% of our sample whose HBV status could not be determined. These tests will need to be repeated. Likely, some of the individuals who were of undetermined status will eventually be found to have CHBI. Additionally, those with CHBI may be experiencing health effects from the virus and may not have been as likely to attend screening sessions as those who were healthy or not yet experiencing symptoms.

The next steps for the initiative include implementing the sustainability plan which calls for continued partnership as established through the CAB, identifying additional partners who will provide treatment and monitoring on a reduced or sliding scale fee, and engaging the

community through results dissemination. The partnership recently completed a survey of participants who had CHBI to identify barriers to participation in the linkage-to-care program.

This initiative was able to provide solutions to several of the barriers that were identified from the early focus groups. Financial burdens were reduced through the provision of free screening and vaccination. Linkage-to-care was facilitated through increased enrollment in insurance plans with navigation assistance provided by CHWs who were also trained medical interpreters. As a result of the provider training on treatment for CHBI, primary care providers in the area have a better understanding of the CHBI disease process, diagnostic tests required for effective monitoring of patients with CHBI, and evidence-based treatment protocols. Language barriers were further reduced by providing CLA program materials. Interpreters at hospitals, clinics, and other medical facilities on the MSGC received training that enhanced their skills so they can better serve Vietnamese patients in various healthcare settings. Providers' capacity to provide CLA services to the Vietnamese community was increased through the provision of Vietnamese-specific provider education. The capacity for self-management of chronic diseases was increased through the offering of CDSM education.

As community and academic partnerships are built to facilitate health, it is paramount that community input is not only solicited but that partnerships provide a space where the input informs all aspects of the program. These efforts are essential in identifying community-driven priorities and solutions, and to achieve program goals and objectives.

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