



Project
MUSE[®]

Today's Research. Tomorrow's Inspiration.

<http://muse.jhu.edu>

Addressing Hepatitis B: Community Health Centers, Partnerships and the Affordable Care Act

Corinna Dan, RN, MPH

Kenneth Tai, MD

Su Han Wang, MD

Jeffrey Caballero, MPH

Melinda Martin, MPH

Stacy Lavilla, MS

Nina Agbayani, RN

Hepatitis B virus (HBV) infection is a major preventable health problem in the U.S. and the most pronounced health disparity disfavoring Asian Americans and Pacific Islanders (AAPIs). Despite constituting only 5% of the U.S. population, AAPIs account for at least 50% of all individuals with chronic HBV infection. Additionally, rates of liver cancer, often caused by chronic HBV are up to 13 times higher in some AAPI subgroups than average.¹ Vaccination, testing, and treatment tools needed to eliminate new HBV infections and prevent liver disease and liver cancer caused by chronic HBV infection exist, but these tools are inadequately implemented. Uncoordinated programs, sparse federal funding, high rates of uninsurance, language barriers, and low levels of awareness among the public and health care providers, are all barriers preventing effective implementation of these tools in AAPI communities. A limited number of programs demonstrating effective public health and primary care collaborative efforts also exist, but support to replicate these programs is needed. Asian Americans and Pacific Islander communities with high rates of hepatitis B infection must mobilize, work with public health and primary care systems, and capitalize on opportunities such as the new Viral Hepatitis Action Plan (Action Plan) and the Patient Protection and Affordable Care Act (ACA) to eliminate HBV and liver cancer.

It is estimated that two billion people worldwide are exposed to HBV and 350 million are chronically infected.² In the U.S., the Centers for Disease Control and Prevention (CDC) estimate that 800,000–1.4 million people (or up to 0.4% of the total population)

CORINNA DAN is a Hepatitis B Fellow with the Association of Asian Pacific Community Health Organizations (AAPCHO) in Oakland, CA. KENNETH TAI is the Medical Director of North East Medical Services in San Francisco. SU HAN WANG is associated with the Charles B. Wang Community Health Center in New York City. JEFFREY CABALLERO is Executive Director of AAPCHO, where MELINDA MARTIN is the Program Director of Health Disparities, STACY LAVILLA is the Director of Communications, and NINA AGBAYANI is the Director of Programs. Please address correspondence to Melinda Martin, Association of Asian Pacific Community Health Organizations, 300 Frank Ogawa Plaza, Suite 620, Oakland, CA 94612; (510) 272-9536 ext. 108; mmartin@aapcho.org.

are chronically infected. Chronically infected individuals often have no symptoms until they are diagnosed with liver disease or cancer. U.S. studies show that in AAPI communities, 4–25% are chronically infected with HBV, with variation depending on country of birth and age;³ these are rates 10–62 times higher than the general population.

Exposure to the virus through contaminated blood or bodily fluids can lead to acute or chronic infection. Perinatal transmission from an infected mother to her infant at the time of birth accounts for a majority of infections in countries with high rates of infection including a majority of countries in Asia. In the United States, new infections have dropped significantly since universal perinatal HBV screening and infant vaccination was recommended in the early 1990s. Hepatitis B vaccine is also recommended for adults at risk including household and sexual contacts of chronically infected individuals. Despite these effective interventions, some 1,000 infants and 43,000 adults are newly infected every year.⁴ In addition, an estimated 40,000–45,000 chronically infected individuals migrate to the U.S. from HBV endemic countries every year³ increasing the number of infected individuals in the U.S. A 2010 Institute of Medicine report, *Hepatitis and Liver Cancer, A National Strategy for Prevention* estimated that 65% of people with chronic HBV are unaware of their status and that ring vaccination (vaccination of close contacts of those infected) is cost-effective.⁵

Hepatitis B is an infectious disease, a public health problem, and an issue for health care providers. Despite notable strides in children vaccination and efforts to prevent transmission to infants, much needs to be done for chronically infected mothers and other adults. Dedicated funding is still needed for adult vaccination, testing, management or treatment for HBV. Because public health has ineffectively tested or cared for chronically infected people, it is clear that additional partnerships and collaboration are needed to eliminate HBV.

Opportunities. In recent years, there has been greater recognition of HBV and a range of opportunities that can lessen its impact on AAPI communities. National laws such as the ACA, as well as new studies and renewed commitment from federal agencies such as the U.S. Department of Health and Human Services (HHS) are promising developments that could change how HBV is prevented and treated.

The ACA overall may lead to improved methods of identifying and caring for people with chronic HBV. The implementation of electronic health records (EHRs) at provider offices and promotion of the patient-centered medical home model (which in a health care setting promotes a partnership amongst patient, provider and family in the delivery of care) in managing chronic diseases, are key ACA provisions that can improve health care quality for people with chronic HBV. The expansion of health insurance and the individual mandate to have coverage will increase the number of insured people with chronic HBV that have access to care. Currently, one in seven Asian American, Native Hawaiian, and Pacific Islanders (AANHOPIs) is uninsured.⁶

Moreover, guaranteed coverage of preventive services without charge or co-pay, while currently including HBV testing for pregnant women, could include other high-risk groups. In addition to ACA-related opportunities to develop HBV public awareness and testing programs, the law highlights community health centers (CHCs), which provide cost-effective health care to individuals in their communities. Under ACA, the entire CHC program is set to expand and could lead to the development of effective tools

and strategies that improve the quality of care provided to HBV patients. Although the stumbling economy slows the rate of program expansion, this critical safety net of providers plays a role in improving HBV testing and disease management.

Another favorable development for HBV came from the release of a 2010 Institute of Medicine (IOM) report on viral hepatitis.⁵ As a result of this document, an HHS interagency workgroup released the HHS Viral Hepatitis Action Plan⁷ in 2011. The Plan's recommendations mirror the IOM report, and looks to double of the number of chronic HBV individuals who are aware of their status, and eliminate perinatal HBV transmission. If implemented, the plan improves health care provider knowledge and practice, increases awareness in communities at risk, and improves testing, care, and treatment for chronic HBV. Though funding for this plan is uncertain, it is clear that AAPI communities must identify and promote effective HBV projects that can be replicated. The development and implementation of the Action Plan is a promising signal that hepatitis may begin to receive even greater and long-overdue attention.

CHC models. The Association of Asian Pacific Community Health Organizations' member community health centers, which primarily serve medically underserved AAPI patients, provide models of HBV services that should be considered as implementation of the ACA and Viral Hepatitis Action Plan get underway. Both Northeast Medical Services (NEMS) in San Francisco and Charles B. Wang Community Health Center (CBWCHC) in New York City have demonstrated that they can improve screening, vaccination, and treatment efforts for AAPIs. Their programs incorporate partnerships, chronic care models and team-based care, which involves a team of providers including physicians, nurses, case managers, health educators, and hepatologists.

Responding to a high prevalence of hepatitis B infection in its community and a lack of awareness among providers and the public, NEMS made hepatitis B an organizational priority. Recognizing the high morbidity and mortality rates for HBV infected individuals, the San Francisco-based clinic created goals to eliminate hepatitis B: increase screening rates from 60% in 2010 to 70% in 2011, increase hepatitis B immunity/vaccination rates from 24% in 2010 to 50% in 2011, and utilize a chronic HBV patient registry through EHR to standardize treatment and liver cancer surveillance.

To reach screening and vaccination goals for recent uninsured Chinese immigrant patients, NEMS needed to eliminate cost barriers. By working with its local public health department, and with a three-year \$25,000 award from a local foundation, NEMS offered both free screening tests and vaccinations to its patients.

To extend its HBV efforts beyond its patient base, NEMS worked with the San Francisco Hep B Free campaign in 2009 and established a free weekly clinic where community members could receive screening and vaccination. Patients received test results in the mail along with recommended next steps. Chronically infected individuals were referred back to their existing Primary Care Providers (PCP) or NEMS. To boost the clinic's screening numbers, NEMS released public service announcements and posted community fliers, resulting in a doubling of the number of patients screened.

Internally, NEMS implemented EHR and created a Hepatitis B Registry. Both were critical to NEMS' success. The registry consisted of 2,502 patients in June of 2010 and grew to 3,992 patients by February 2011 representing a 60% increase in the number of patients identified as chronically infected with HBV. As with other chronic disease

registries, the HBV registry ensures that all individuals receive evidence-based practice guidelines for treatment and cancer surveillance. The registry also enables teams of providers and medical assistants, with varying levels of training, to provide proactive coordinated care through a tailored online tracking system.

To streamline clinical operations and improve patient care, NEMS created physician alerts in its EHR system that included patient HBV results and screening notifications. NEMS software was also fine-tuned to extract hepatitis B test results from larger lab datasets, and allow physicians and medical assistants to identify patients requiring testing. By aligning its HBV goals with relevant department goals (adult medicine and nursing) NEMS coordinated care more effectively. It also created action steps and metrics for providers as part of its overall goals. In addition to receiving peer feedback, physicians also receive quarterly report cards that include screening/vaccination percentages for respective patients. This allowed for greater transparency and accountability among providers, and the peer feedback helped inform physicians of their performance and served as a quality improvement activity in NEMS' quality assurance program. Based on 2011 encounter data, 70% of patients were screened and 49% were immunized or vaccinated.

The Charles B. Wang Community Health Center (CBWCHC) in New York City, like NEMS, recognized the burden of HBV in its community and took action. Numerous community-based screenings revealed a hepatitis B prevalence rate of 15–25%.⁸ A critical characteristic of any HBV screening program is ensuring that patients receive appropriate follow-up care. With off-site screening events this follow-up is difficult, and often leads to individuals going without vaccinations or treatment. The CBWCHC found that on-site screening provided better linkage to care and as a first step, incorporated screening into routine care for its patients (e.g., physical exams). This required training providers on hepatitis B, including interpretation of screening test results and appropriate follow up. Because the disease was so prevalent and many patients could not access specialist care due to lack of insurance, primary care providers were compelled to learn to evaluate, monitor, and treat chronic hepatitis B infection.

The CBWCHC grounded its HBV efforts in the chronic care model, which has been described for depression⁹ and diabetes.^{10,11} Departmentally cross-cutting allowed the CBWCHC to create HBV-specific activities that improved delivery of care within areas such as delivery system design, decision support, clinical information systems, and self-management support. Fulfilling these activities was beneficial to CBWCHC as they overlapped with the center's current Patient-Centered Medical Home certification objectives (care coordination, patient self-management, patient registries, culturally relevant care).

In order to build the knowledge and expertise of its primary care physicians and nursing staff, on-site chronic hepatitis B lectures were given by specialists (both hepatologists and infectious disease physicians). The CBWCHC developed a summary sheet of chronic hepatitis B recommendations and posted it as a quick reference guide in exam rooms. Annual hepatitis B peer reviews, which consist of physicians reviewing hepatitis B charts for measures of quality care and which serve as quality improvement measures, were also implemented.

In addition to bolstering training, the CBWCHC implemented EHR in 2006 and

began developing hepatitis B-specific decision support tools that enabled providers to provide more efficient patient care. Using these tools, providers are able to easily view diagnostic test results, patient screening and vaccination status, and test reminders.

A hepatitis B registry was also created so the hepatitis B provider team could monitor hepatitis B patients on a larger population level. This allowed for the production of EHR reports with the clinical characteristics of all hepatitis B patients. From 2006–2011, 5,010 patients were entered into the registry, which is 12.8% of all the individual medical records in the EHR system.

A hepatitis B care manager at the CBWCHC provided crucial to care coordination of patients. Care management, an element emphasized in current PCMH standards, initially followed patients in the center's hepatitis B screening programs to ensure receipt of test results and vaccine series completion. The center expanded care management to 450 HBV Hepatitis B Care program patients. The care manager monitors these patients as a population and reviews their visit history, including blood work, and ultrasound dates. The care manager also intervenes if a patient has missed a visit or has other issues. This additional level of care was critical for patient retention as these patients had a one-year lost-to-follow-up rate of 4%, which was lower than the general internal medicine population (10–20% no-show rate for patients' physical exams).

The case manager and team-based care has made a significant difference for CBWCHC's patients. To take just one example, Mei, a 26-year-old woman who had a hepatitis B infection since childhood, had few options for hepatitis B care. Through CBWCHC's hepatitis B provider team Mei, who was uninsured, was able to enroll in the Hep B Care Program (which is partially funded by private grants) and apply for a drug assistance plan.

Once Mei became pregnant she began seeing an obstetrician in Brooklyn, but travelled to Manhattan for her hepatitis B visits since EHR enabled her doctors to view her medical records quickly. With EHR, Mei did not have to worry about transferring her records to another doctor.

Mei views the CBWCHC as her medical home, a place she can go to treat her hepatitis B infection. She appreciates that her care not only involves doctors, but that it includes nursing staff that educate her on hepatitis B. In addition, the CBWCHC has also provided her with culturally and linguistically appropriate educational brochures in traditional Chinese, and portable tools to help her track her lab results. The team at the CBWCHC has helped ensure that Mei receives treatment for her hepatitis B infection, and that her baby receives the vaccines required to avoid infection as well.

The model at NEMS demonstrates how community and public health partnerships supports expansion of HBV services and how these activities are effective for at-risk populations. Community partnerships facilitate outreach that attracts individuals to educational and screening programs, sharing of best practices and more coordinated local efforts. Public health partnerships successfully increased community-based vaccination resources, but greater support could improve additional areas such as surveillance reporting, connection to care, and public education.

The implementation of EHR and other ongoing health care system transformations, such as that found in CBWCHC's model, provide critical infrastructure for patient identification and management along with the establishment of quality measures and

provider feedback systems. With the evolution of health information technology, data extracted from EHRs could improve HBV surveillance and lead to the targeted allocation of resources in communities with large numbers of chronically infected individuals.

While growing support and acknowledgement of hepatitis B is evident, funding support for effective programs like those at NEMS and CBWCHC is non-existent. Leveraging community and public health partnerships and creating opportunities through ACA implementation activities can result in more people being screened, vaccinated, and connected to health care services. But elimination of HBV and resultant liver disease and cancer requires sustained efforts, consideration of HBV during each ACA implementation phase, and continued advocacy of communities disproportionately affected by this silent killer.

Notes

1. Ho W. Ethnic health assessment for Asian Americans, Native Hawaiians, and Pacific Islanders in California. San Francisco, CA: Asian & Pacific Islander American Health Forum, August 2010 (updated 2011). Available at: <http://www.apiahf.org/sites/default/files/PA-factsheet06-2010.pdf>.
2. World Health Organization. Hepatitis B fact sheet number 204. Geneva, Switzerland: World Health Organization, August 2008. Available at: <http://www.who.int/media centre/factsheets/fs204/en/>.
3. Centers for Disease Control and Prevention. A comprehensive immunization strategy to eliminate transmission of hepatitis B virus in the United States. *MMWR*. 2006 Dec 8;55(RR-16):1–40.
4. Daniels D, Grytdal S, Wasley A. Surveillance for acute viral hepatitis—United States, 2007. *MMWR*. 2009 May 22; 58(3):1–27.
5. Colvin HM, Mitchell AE, eds. Hepatitis and liver cancer: a national strategy for prevention and control of Hepatitis B and C. Washington, DC: Institute of Medicine, The National Academies Press, 2010.
6. Asian & Pacific Islander American Health Forum. The impact of health care reform on health coverage for Asian Americans, Native Hawaiians, and Pacific Islanders. San Francisco, CA: Asian & Pacific Islander American Health Forum, 2011. Available at <http://www.apiahf.org/resources/resources-database/impact-health-care-reform-health-coverage-asian-americans-native-hawaii>.
7. U.S. Department of Health and Human Services. Combating the silent epidemic of viral hepatitis: action plan for the prevention, care and treatment of viral hepatitis. Washington, DC: U.S. Department of Health and Human Services, May 2011. Available at: <http://www.hhs.gov/ash/initiatives/hepatitis>.
8. Pollack H, Wang S, Wyatt L, et al. A comprehensive screening and treatment model for reducing disparities in hepatitis B. *Health Affairs*. 2011 Oct;30(10):1974–83.
9. Katon WJ, Lin EHB, Von Korff M, et al. Collaborative care for patients with depression and chronic illnesses. *N Engl J Med*. 2010 Dec 30;363(27):2611–20.
10. Vargas RB, Mangione CM, Asch S, et al. Can a chronic care model collaborative reduce heart disease in patients with diabetes? *Journal of General Internal Medicine*. 2007 Feb;22(2):215–22.
11. Yu GC, Beresford R. Implementation of a chronic illness model for diabetes care in a family medicine residency program. *Gen Intern Med*. 2010 Sep;25 Suppl 4:S615–9.