Lessons Learned in the Quest to Eliminating HBV across the Life Span in Sacramento, CA

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Co-Founder, National Task Force on Hepatitis B: Focus on Asian Americans and Pacific Islanders

Hepatitis B United Summit
Washington, DC
July 24, 2019
Take-home conviction:

Ending the transmission of HBV will require pre-empting HBV transmission throughout the lifespan:

• beginning with interrupting perinatal HBV transmission,
• followed by intentional strategies to assure vaccination at least thru age 18, &
• serological testing and linkage to care for adults at-risk.

The *Challenge* is how to make this happen.
Highlight elements that can lead to & sustain the elimination of HBV at the local level.
### Sacramento’s 5 Major Local Initiatives

<table>
<thead>
<tr>
<th>Years</th>
<th>Program Name</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006 - 12</td>
<td>Liver Cancer Control Interventions for Asian Americans</td>
<td>NIH</td>
</tr>
<tr>
<td>2013 - 14</td>
<td>Thousand Asian American Study</td>
<td>CDC</td>
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<tr>
<td></td>
<td><strong>TAAS</strong></td>
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<tr>
<td>2014 - 17</td>
<td>Sacramento Collaborative to Advance Testing &amp; Care of Hepatitis B (SCrATCH B)</td>
<td>CDC</td>
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<tr>
<td>2018</td>
<td>UCD Cancer-HALO Collaborative</td>
<td>BMSF</td>
</tr>
<tr>
<td>2019</td>
<td><strong>END B</strong></td>
<td>OMH/HHS</td>
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</table>
Community-Based Interventions to Promote Hepatitis B Testing, 2010-16

Liver Cancer Control for Asian Americans

NCI P01CA109091-04A1
Utilize list of Hmong households

Determine eligibility

In person interview to:
Collect baseline data

Random Assignment

Intervention: Hepatitis B
With CBO #1 LHW

Follow-up interview: self-reported testing

Verification of testing by checking medical records

Control: Diet & Exercise
With CBO #2 LHW
Increasing Screening in the Hmong Community by Lay Health Workers, 2010-16

- LHW had a significant impact on HBV testing but rates remained low
- 90% reported having medical insurance
- 80% reported having a regular physician

Thousand Asian American Study (TAAS), 2014
Patterns and co-occurrence of risk factors for hepatocellular carcinoma in four Asian American communities: a cross-sectional study

Susan L Stewart, 1* Julie HT Dang, 1 Natalie J Török, 2 Moon S Chen 2

ABSTRACT

Objective To investigate risk factor patterns and the simultaneous occurrence of multiple risk factors in the viral, metabolic and lifestyle domains among Asian Americans, who have had the highest mortality rates from hepatocellular carcinoma (HCC).

Setting Sacramento County, California, USA.

Participants Eligible participants were county residents age 18 and older who had not been screened for chronic hepatitis B virus (HBV) and were born in a CDC-defined endemic area or whose parent was born in that area. Of 1004 enrolled, 917 were born born Chinese (150 women, 94 men), Filipino (133 women, 76 men), Korean (138 women, 50 men) or Vietnamese (136 women, 81 men) with complete risk factor data.

Primary and secondary outcome measures We tested participants for HBV and chronic hepatitis C virus (HCV), measured haemoglobin A1c and waist circumference, and recorded self-reported history of diabetes, hypertension, alcohol use and smoking status. We identified risk factor patterns using cluster analysis and estimated gender-specific age-standardized prevalence rates.

Results We identified four patterns: (1) viral (chronic HBV or HCV); (2) high-risk prevalent smoker or alcohol user, no viral; (3) metabolic (diabetes, obesity or viral), and (4) liver risk (diabetic, obese or viral). Vietnamese men (31.6%, 95% CI 23.9% to 39.3%), Filipino women (15.1%, 95% CI 7.7% to 22.5%) had the highest viral pattern prevalence. Hispanic women had the highest metabolic (37.8%, 95% CI 30.8% to 45.0%), and Vietnamese men the highest lifestyle (7.4%, 95% CI 4.3% to 11.7%) pattern prevalence. In multiple domains, Hispanic men and women were most likely to have high metabolic/lifestyle risk factors (men 14.4%, 95% CI 9.6% to 22.7%; women 11.0%, 95% CI 5.6% to 19.9%). Vietnamese men were most likely to have triple-risk (13.8%, 95% CI 8.2% to 21.8%) and lifestyle risk but not viral (9.4%, 95% CI 3.4% to 17.9%) risk factors.

Conclusions Efforts to reduce HCC must comprehensively address multiple risk factors. Trial registration NCT02904943.

Strengths and limitations of this study

This was a large community-based study that collected primary data on the prevalence of several aetiological and lifestyle risk factors for hepatocellular carcinoma in four Asian American ethnic communities.

Other strengths included use of validated screening tests, use of standardised self-reported measures, and inclusion of statistical analyses to identify risk factor patterns. Higher sample sizes would have allowed for more detailed analysis of specific subgroups and for examination of other potential risk factors.

However, there were some limitations to the study. First, the study was cross-sectional, so causality cannot be established. Second, the study was limited to the four Asian American communities studied, and the results may not be generalizable to other populations. Third, the study was conducted in a single county in California, and the findings may not be applicable to other regions or countries.

In conclusion, this study provides valuable insights into the risk factors for hepatocellular carcinoma in Asian American communities. The findings emphasize the need for targeted interventions to reduce HCC risk.
*Health System “in reach”

*Identification of “untested”

*Recruitment to testing

*Identification of HBsAg positive patients

*Case management of HBsAg positive patients
Using EMR to identify Asian Americans who have not been tested for HBV, 2013-17

- ICD code: HBsAg
- Patients who have never had HBV tests
- Asian Americans
- Country of Birth
  - Self-identified ethnicity
  - Last name
  - Language preference
Hmong have **PNPLA3**, a genetic variant, 3\textsuperscript{rd} most common, 2015-17 in the world responsible for chronic liver disease?
Evaluation of “Focus on HBV” through HALO’s Academy for Medical Assistants
Moon S. Chen, Jr., Ph.D., M.P.H., Alexandra Gori, Duke LeTran, B.S., George Yang, B.S., Mary Pat Pauly, M.D., FAAALD, FACP, Amy Beste-Fong, RN, MCM, Khi W. Tam, M.D., Ian Johnson M.D.

Context
- Liver cancer is the world’s 2nd deadliest cancer & disproportionately affects Asian Americans.
- Health & Life Organization (HALO) is Sacramento County’s largest healthcare provider to Asian Pacific Islanders (>6,450), 3,300 of whom are Southeast Asians at risk for HBV/HBV cancer.
- Misleading HBV transmission requires multiple interventions beginning with preventing perinatal transmission, newborn vaccination, vaccination of youth societal leasing of adults & linkage to care.
- HALO’s bilingual/bicultural medical assistant (MA) represent unsupervised intervention agents.

Approach
- With unanimous endorsement by the UCD-HALO leadership & approval by the Bristol-Meyers Squibb Foundation, the Collaborative strategically realigned its priorities & resources to emphasize training HALO’s MAs.
- The Focus on HBV on June 15, 2016 was the first of its training sessions to equip MAs.

Results

Pre and Post-Test Analysis

<table>
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<tr>
<th>Question</th>
<th>Answer</th>
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<tr>
<td>1. What is the world’s 2nd deadliest cancer?</td>
<td>Liver cancer</td>
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<tr>
<td>2. What is the window time frame for the first 2 injections for the baby for the immunization against Hepatitis B in the hospital?</td>
<td>12 hours</td>
</tr>
<tr>
<td>3. All should ideally should the baby get its last Hepatitis B immunization?</td>
<td>6 months</td>
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<tr>
<td>4. How many tetanus should be performed within a time frame for the baby to the blood test to check if they are immune to Hepatitis B?</td>
<td>2</td>
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Table 2 & Figure 4-5: HALO medical assistant performance on assessing administration of pre and post test questions pertaining to HBV. Questions 1-4 shown for summary.

Figure 2: Providers and MAs listening to the Academy instructions.

Conclusions
- Increase in percent correct in overall Post-Tests (92.2%) over Pre-Tests (47.0%)
- High conversions by MAs (88%) that instructional level “just right”
- MAs highly receptive to training.

Next Steps
- Collaborative Steering Committee consensus on series of new topics
- Need to link knowledge gains with operational impact & documentation recorded in EMR for longitudinal follow-up & programmatic evaluation
- Potential sustainable model for other PCMHlook-alikes & academic-community-clinical collaboratives

Acknowledgments
The inaugural training session for the Academy for HALO’s Medical Assistants is generously supported by a grant from the Bristol-Myers Squibb Foundation for the UC Davis-HALO Collaborative.

Julia Chang, Ph.D., M.P.H.
J. Miguel Suarez, M.D.
Mai Tran, Est D.
Gail Yang
Responding to OMH HBV Grant Program:

**END B:** A Comprehensive Hepatitis B Collaborative Program for HALO

Funded by the Office of Minority Health
U.S. Department of Health & Human Services

July 15, 2019 – June 30, 2020
Preventing perinatal transmission
Presentation Objectives:

1. Share Sacramento’s 5 major local initiatives to mitigate hepatitis B.

2. Illustrate the innovative elements and the lessons learned from each of these initiatives.

3. Highlight elements that can lead to & sustain the elimination of HBV at the local level.
**Vision:** To create a model national demonstration program to end the transmission of Hepatitis B through arresting prenatal transmission; vaccination of newborns and children; screening of adults and referral to vaccination for the uninfected and linkage to care for those infected, sparing the next generation of HALO patients from HBV.

### Logic Model for UCDCCC-HALO Collaborative

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<th>Outputs</th>
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<td>Start-up: HALO HBV Case Manager hired/trained; IRB approval; and EMR enhanced</td>
<td>Customization of approaches to HALO’s at-risk populations</td>
<td>Evaluation metrics in place and data collection and analyses in progress</td>
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<td>Leadership commitment to <strong>END B</strong> from UCDCCC, UCD School of Medicine, CTSC, HALO, Sac Co Division of Public Health</td>
<td>Monthly progress reports through Stakeholders Steering Committee and semi-annual progress reports to CAB</td>
<td>Establish electronic tracking</td>
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<td>Sustainable and scalable model</td>
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“Longest journey begins with a single step….”