## Ethnic Minorities and Low Socioeconomic Status Patients with Chronic Liver Disease are at Greatest Risk of Being Uninsured

Kabiru Ohikere, M.D., M.H.A <sup>1</sup>, Amit S. Chitnis, M.D., M.P.H <sup>2</sup>, Thomas A. Hahambis, M.H.S, PA-C <sup>3</sup>, Ashwani K. Singal, M.D., M.S <sup>4,5</sup>, Robert J. Wong, M.D., M.S <sup>6,7</sup>

<sup>1</sup> Division of Research, Kaiser Permanente, Oakland, CA, <sup>2</sup> Tuberculosis Section, Division of Communicable Disease Control and Prevention, Alameda County Public Health Department, San Leandro, CA, <sup>3</sup> Gilead Sciences Inc., Foster City, CA, <sup>4</sup> Department of Medicine, University of South Dakota Sanford School of Medicine, Sioux Falls, SD, <sup>5</sup> Division of Transplant Hepatology, Avera Transplant Institute, Sioux Falls, SD, <sup>6</sup> Division of Gastroenterology and Hepatology, Veterans Affairs Palo Alto Healthcare Systems, Palo Alto, CA

#### **BACKGROUND**

- Chronic liver disease (CLD) predominantly affects ethnic minorities and socially vulnerable populations.
- These populations have a high prevalence of risk factors such as suboptimal insurance coverage, thus predisposing them to healthcare disparities.

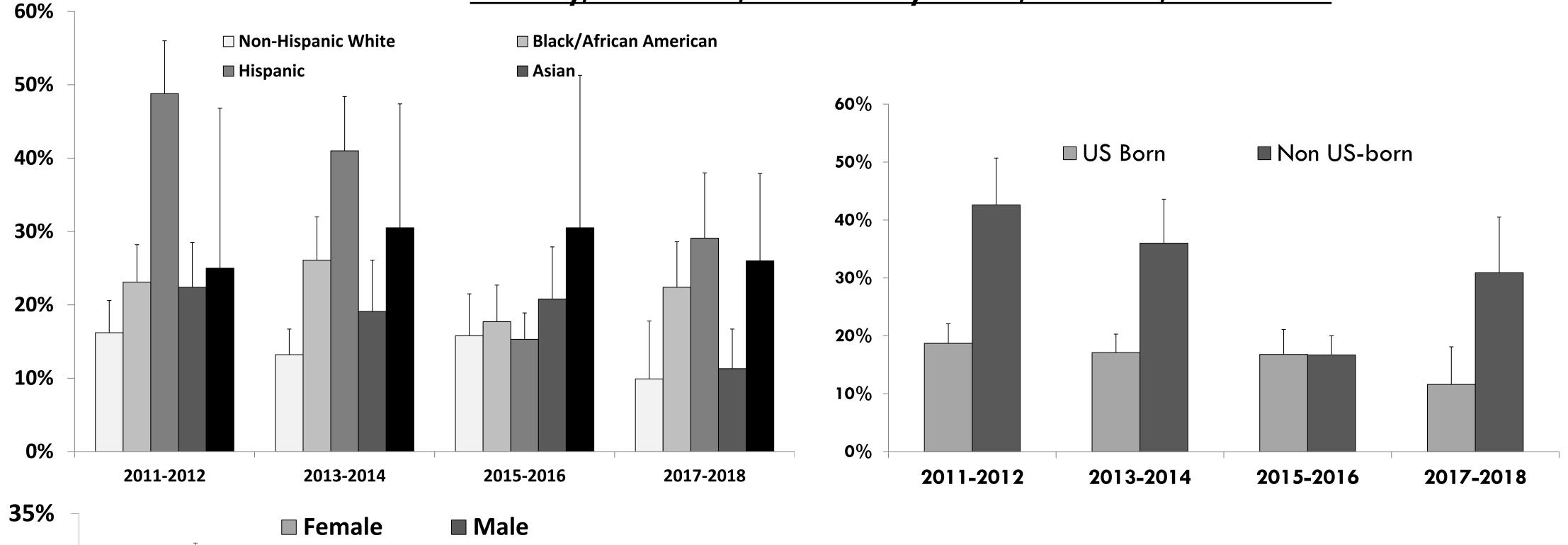
#### AIM

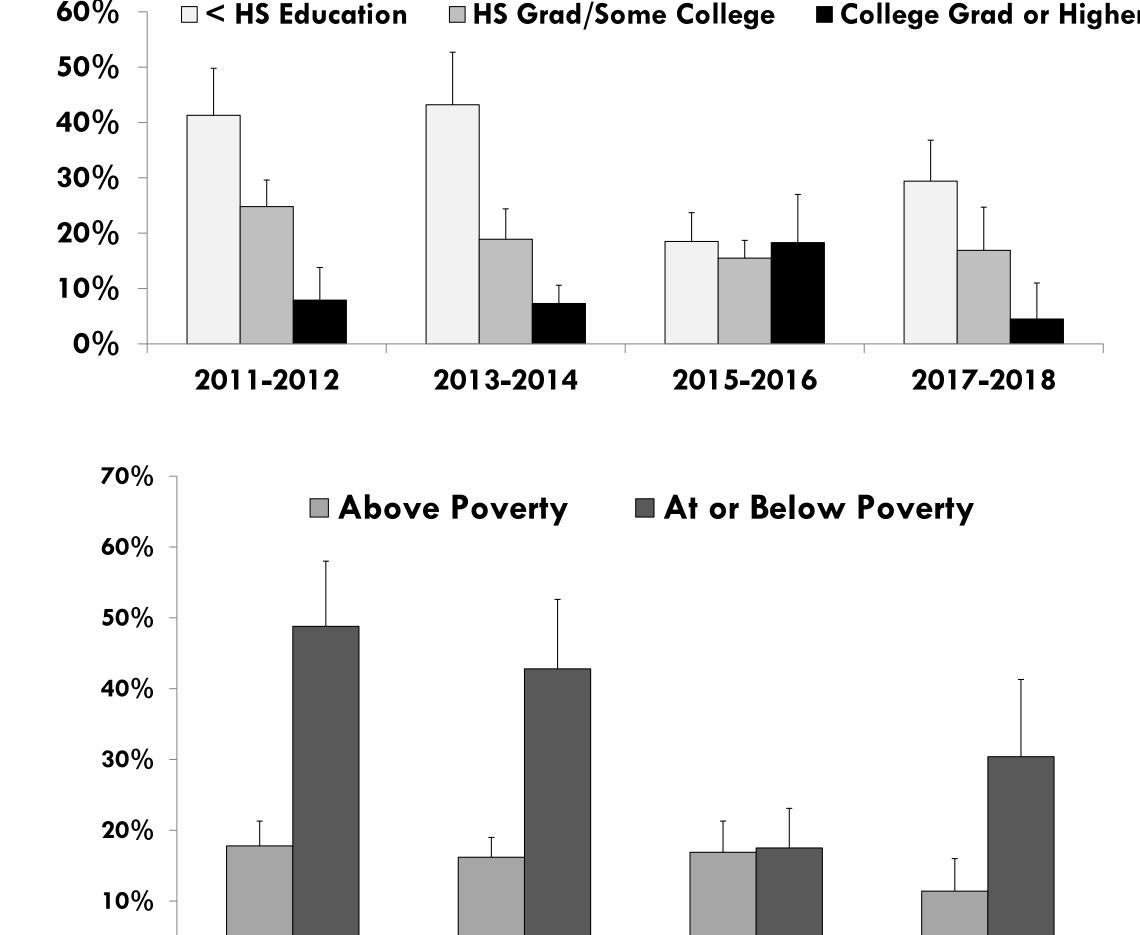
This study aims to evaluate the prevalence and predictors of uninsured status among CLD adults, and secondarily, how this affects documented immunity or vaccination for hepatitis A virus and hepatitis B virus.

### **METHODS**

- Using 2011-2018 National Health and Nutrition Examination Survey data, self-reported insurance status was determined among adults with CLD.
- Prevalence of uninsured status was stratified by patient characteristics and evaluated using multivariable logistic regression models.
- Prevalence of self-reported completion of vaccination as well as laboratory value based documented immunity to HAV and HBV was stratified by insurance status.
- Comparisons of insurance status coverage between individuals with CLD were performed with chi-square testing. Adjusted multivariate logistic regression models evaluated for predictors of having insurance (vs. no insurance) among individuals with CLD.
- Comparisons of documented vaccination for or immunity to HAV and comparisons of documented vaccination for or immunity to HBV between groups were evaluated by chisquare testing.

# <u>Proportion of Chronic Liver Disease Patients who are Uninsured, by Race/Ethnicity, Gender, Nativity, Education, and Poverty Status, NHANES, 2011-2018</u>

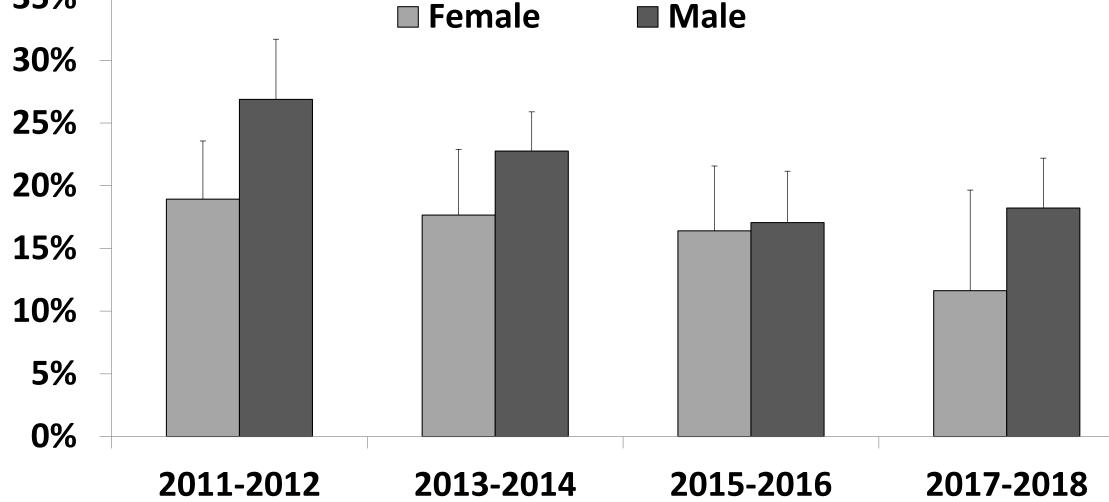




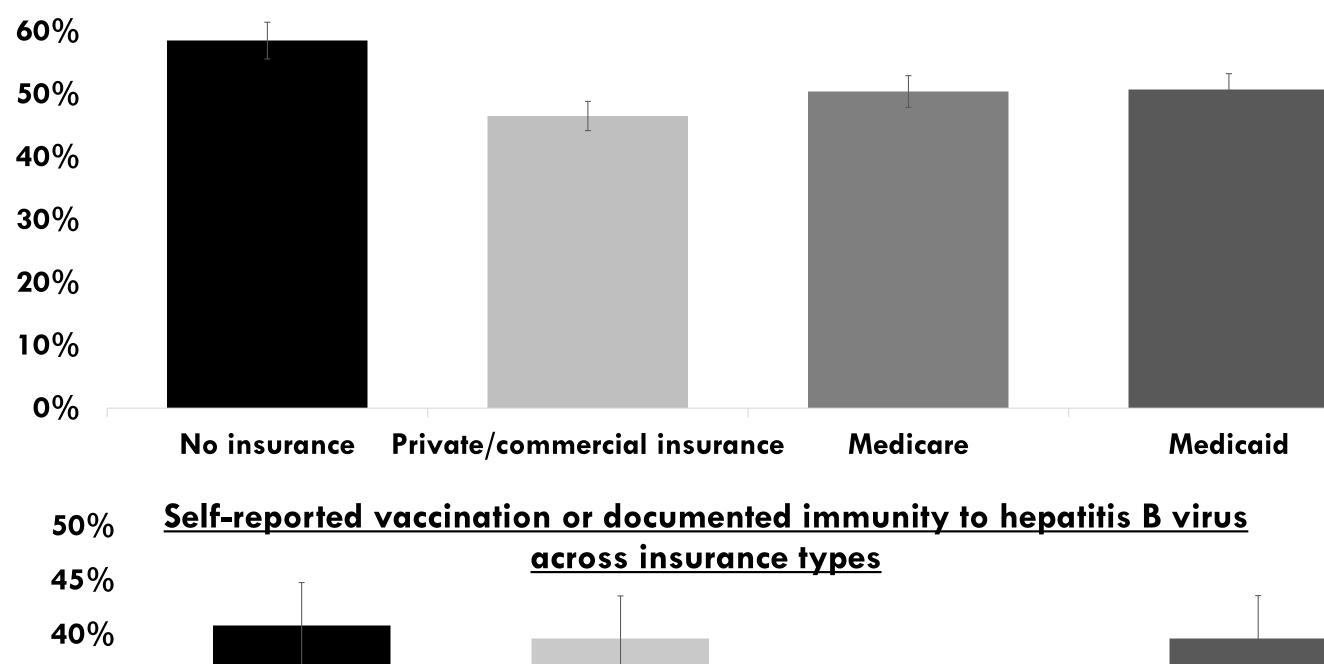
2013-2014

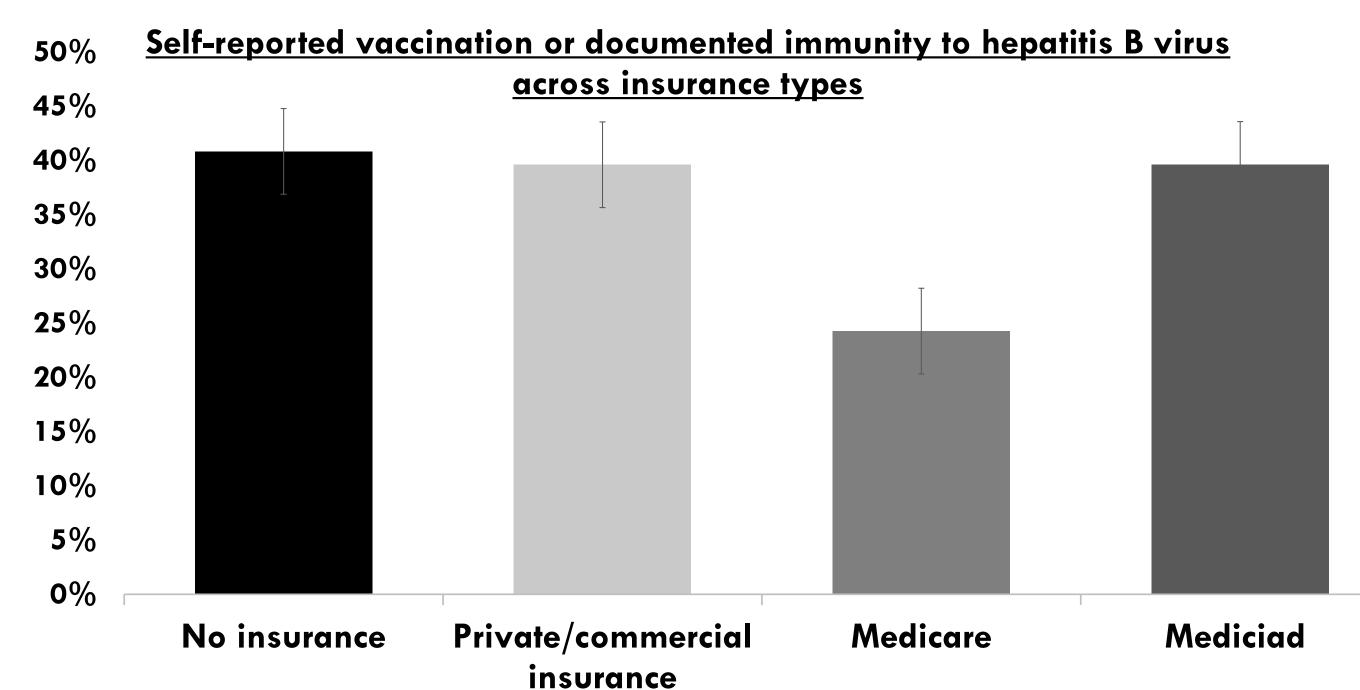
2015-2016

2017-2018









### **RESULTS**

2011-2012

- ➤ Overall, 19.0% of adults with CLD reported having no insurance, which was highest among individuals of Hispanic ethnicity (33.5%), less than high school Education (33.7%), and below poverty status (35.3%)
- On multivariable analyses, significantly lower odds of having any insurance coverage was observed in men, Hispanics, and individuals with lower Education and lower household income.
- ➤ Prevalence of documented immunity or vaccination for HAV was low across all insurance categories, ranging from 46.5% to 54.0%.
- ➤ Prevalence of documented immunity or vaccination for HBV was similarly low across all insurance categories, ranging from 24.3% to 40.8%.

#### CONCLUSIONS

- > Prevalence of uninsured status among chronic liver disease patients was more than twice the U.S. adult populations, and lack of insurance particularly impacted Hispanics and individuals with low Education and low household income.
- > Low prevalence of documented HAV and HBV immunity or vaccination across insurance categories suggest that quality improvement measures targeting HAV and HBV vaccination may be needed to improve care among chronic liver disease patients.