

Colorectal Cancer Screening Guidelines: Analysis of the 2019 National Health Interview Survey (NHIS)

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Introduction

- Colorectal Cancer (CRC) has well-established screening guidelines with strong evidence for decreasing incidence and mortality.
- CRC is the 3rd most common cancer and 2nd leading cause of death of overall cancer mortality.
- Updated CRC screening guidelines by the U.S. Preventative Services Task Force (USPSTF): screen all adults aged 45 to 75 years, multiple screening strategies
 - Colonoscopy every 10 years (COL)
 - Sigmoidoscopy every 10 years w/ annual FIT (SIG)
 - Fecal occult blood test or FIT annually
 - Stool DNA-FIT every 1-3 years
 - Computed tomography colonography every 5 years

The objective of this study is to compare screening patterns within subgroups of the NHIS screening cohort. We also wanted to explore if participants met USPSTF guidelines for COL or SIG. We used answers from 21,863 respondents aged 40+ out of 31,997 participants from the 2019 NHIS.

Methods

- Used the 2019 NHIS and performed descriptive statistics on participant demographics and CRC screening with SIG and COL within the last 10 years
- Utilized bivariate and multivariable logistic regression using IBM SPSS Version 26 to highlight variables that were associated with the primary outcome

Results & Discussion

- We gathered demographic information and CRC screening answers from 21,863 respondents (Table 1). 60.8% reported they had undergone COL or SIG in the past, while 55.7% were shown to have followed COL/SIG guidelines.
- We found significant disparities in CRC screening patterns based on sociodemographic factors, such as race/ethnicity, nativity, education, SES, health insurance, smoking status (Figure 1, Figure 2).
- Concern for increasing incidence in undetected, young-onset cancers before the age of 50 led the USPSTF to expand screening to 45 years of age in 2021.

Future Directions

- Conduct a prospective study following implementation of 2021 guidelines using future NHIS data
- Further explore why certain populations with high CRC burdens have low screening rates
- Examine if past and current public health interventions have improved screening uptake in certain populations
- Develop new intervention studies to understand patient knowledge and physician-patient communication when discussing CRC screening guidelines

Table 1. CRC Screening Participant Demographics

	Participants (%)
Sex (N = 21863)	
Male	9981 (45.7)
Female	11992 (54.3)
Nativity (N = 21460)	
Born in U.S. or U.S. Territory	18265 (85.1)
Not born in U.S. or U.S. Territory	3195 (14.9)
Race (N = 21863)	
White only	15982 (73.1)
Hispanic only	2196 (10)
Black / African American only	2275 (10.4)
Asian only	942 (4.3)
American Indian and Alaska Natives only	139 (0.6)
American Indian and Alaska Natives & any other group	173 (0.8)
Other single & multiple races	156 (0.7)
Education (N = 21746)	
No school / Incomplete high school	2143 (9.9)
High school graduate	5703 (26.2)
Some college, no degree	3396 (15.6)
College degree	10504 (48.3)
Ratio of family income to poverty threshold (N = 21863)	
<1.00	2190 (10)
1.00-1.99	3847 (17.6)
2.00-3.99	6369 (29.1)
>= 4.00	9457 (43.3)
Smoking status (N = 21472)	
Smoker	11978 (55.8)
Never Smoker	9494 (44.2)
Health insurance status (N = 21822)	
Private or Military	13223 (60.6)
Any Public	7268 (33.3)
No health insurance	1331 (6.1)
Access to usual place of care (N = 21857)	
Has access	20620 (94.3)
Has no access	1237 (5.7)

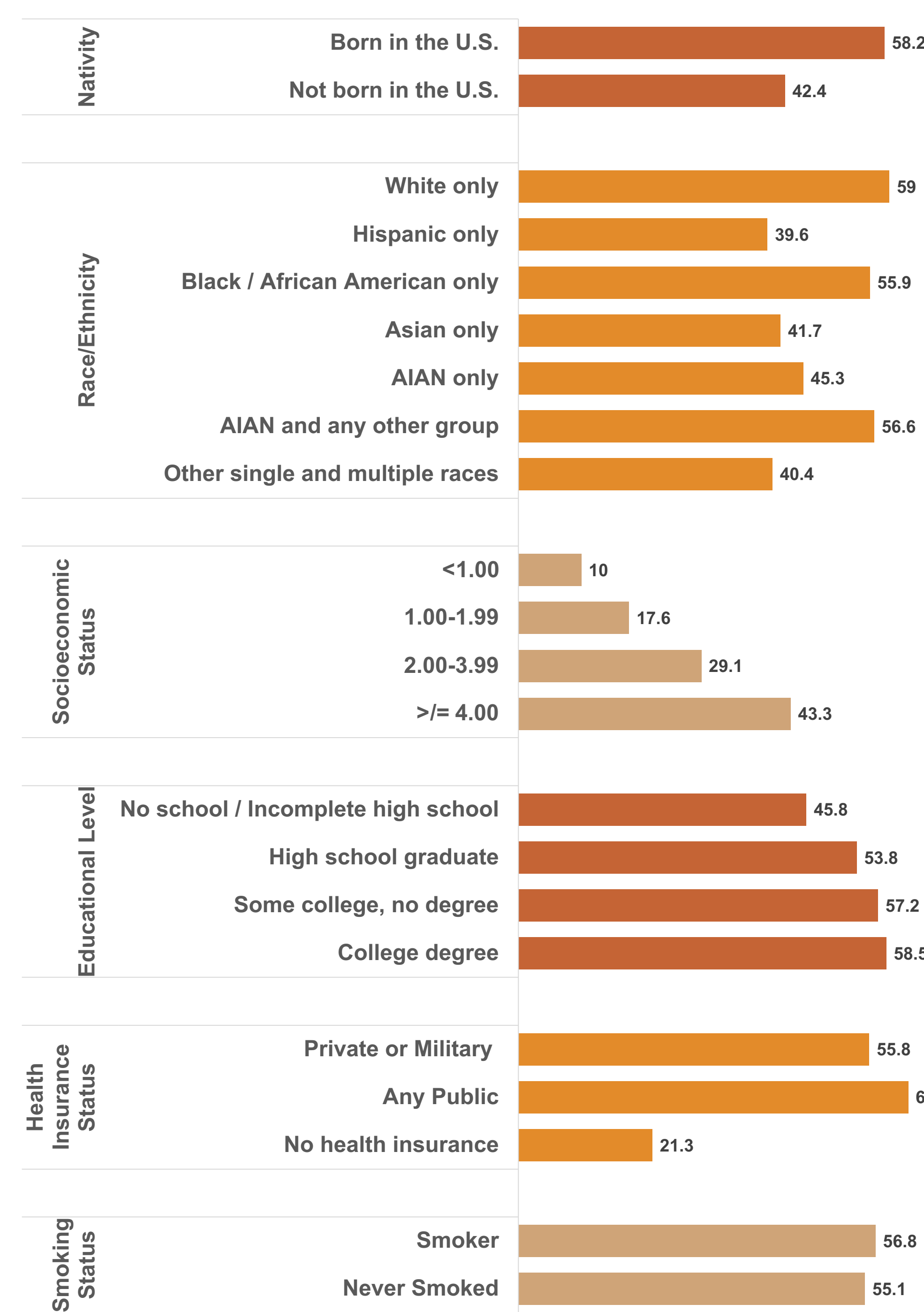
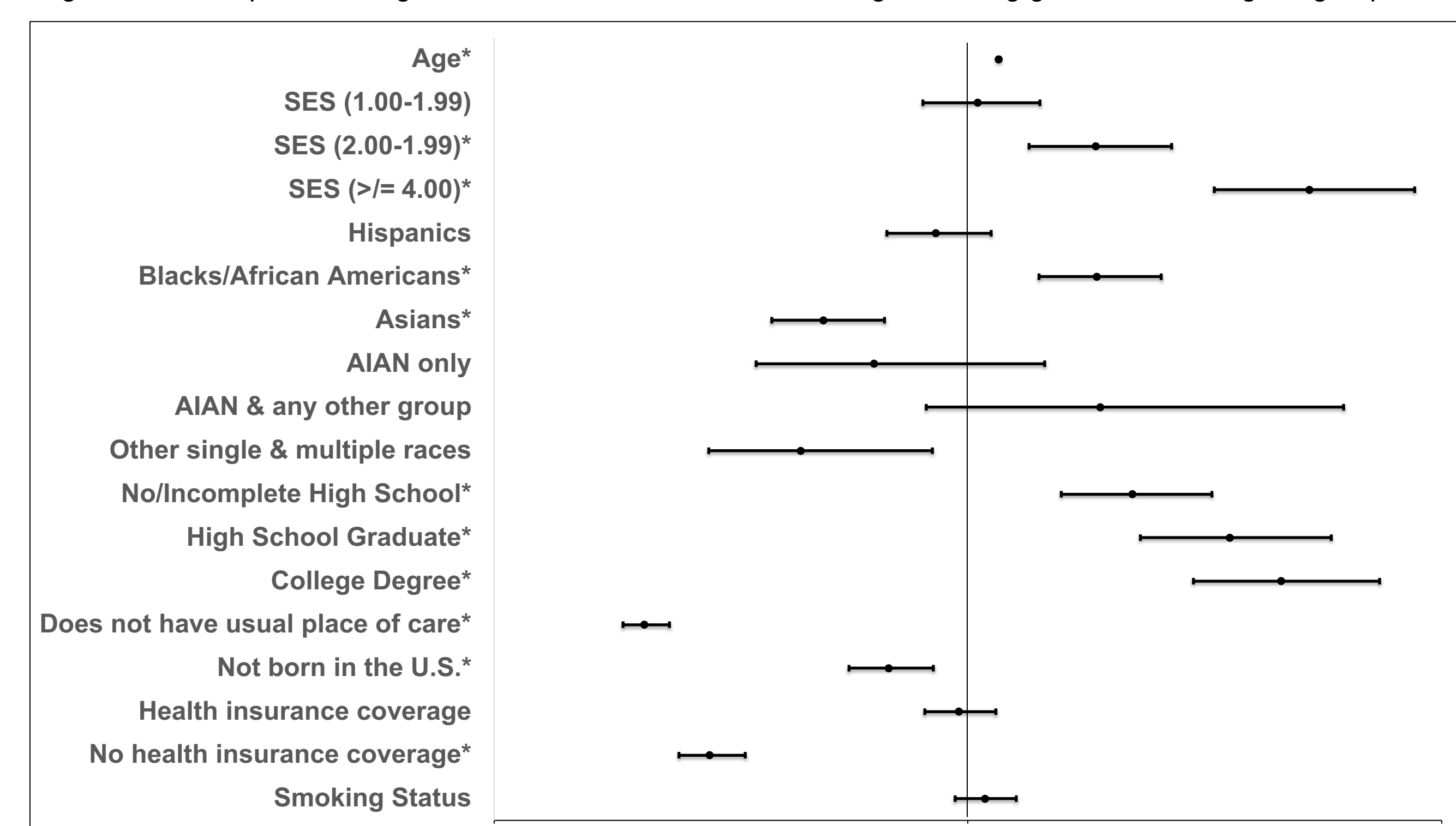


Figure 1. Participants who met CRC guidelines by demographics

Figure 2. Forest plot showing odds ratios for likelihood of following screening guidelines among subgroups



*Ps.005 on multivariable logistic regression-defined adjusted odds ratio