

Disparities in Receipt of Alcohol Brief Intervention: the Intersectionality of Sex, Age and Race/ethnicity

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Background – Alcohol Consumption

- **Although more men than women consume alcohol, the gap is narrowing**
 - Decreasing trend among men
 - Increased and heavier drinking among women
 - Increasing trend in alcohol consumption (including heavier drinking) among women, exacerbated by the COVID-19 pandemic
- **Trends in alcohol use reflect complex sex, age and racial/ethnic dynamics**
 - Boys tend to initiate earlier but girls have shorter duration between first drink and first heavy episodic drink (5+ drinks on one occasion)
 - Alcohol use has declined more among men than among women, and, among adults over 30 years of age, recent increases in alcohol use and heavy drinking have been larger among women
 - White men are more likely than Black men to be heavy drinkers, but such differences are not observed among women

Background – Brief Intervention for Unhealthy Alcohol Use

- **Brief interventions provide an important opportunity to reach women with unhealthy drinking**
 - Women have lower specialty treatment rates than men
 - Women enter treatment much later than men – “telescoping effect”
 - Women are more likely than men to have a primary care provider and regular visits
- **However, there may be important disparities in receipt of alcohol brief intervention**
 - Receipt of brief intervention for unhealthy alcohol use was lowest among Black women, highest for White men
 - Women also had lower likelihood of discussing alcohol use with primary care providers than men (12.5% vs. 19.0%)
 - Such conversations were more common among those aged 18–24 (27.9%) than among middle-aged and older adults

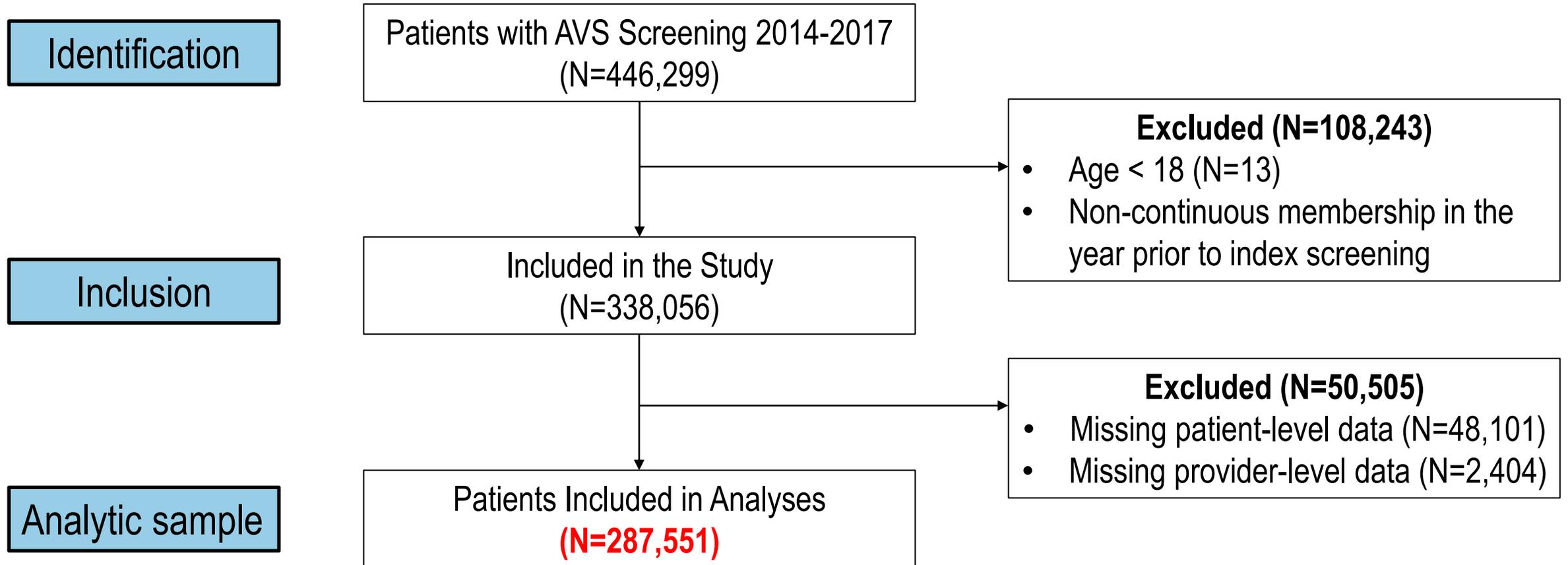
Research Aim

- In this population-based observational cohort study, we examine receipt of brief intervention for unhealthy alcohol use in the context of a systematic program of SBIRT in adult primary care in a large US Integrated Healthcare Delivery System
 - Specifically, we examine receipt of brief intervention by sex, age, and race/ethnicity, and their intersectionality, acknowledging the potential heterogeneity of effects and the role of systemic disparities in access and outcomes, incorporating important patient characteristics

Setting and Data Source

- **Study setting**
 - Kaiser Permanente Northern California (KPNC)
- **Data Sources**
 - Alcohol as a Vital Sign (AVS)
 - Other patient- and provider- level data in the health plan's Electronic Health Records (EHR) and administrative databases

STROBE Diagram of Sequential Inclusion/Exclusion Criteria



Measures

Patient-level

- Demographics (age, gender, race/ethnicity)
- Insurance type
- Neighborhood deprivation index
- Charlson comorbidity index
- BMI
- Smoking
- Physical activity level
- Comorbidities (alcohol use disorders, drug use disorders, mental health disorders, substance abuse related medical conditions)
- Baseline alcohol as a vital sign (AVS) screening results
- Healthcare utilization 1Y prior
- Alcohol consumption at the index screening (“exceeding only daily limit,” “exceeding only weekly limit,” or “exceeding both daily and weekly limits”)

Provider- and Organizational- level

- Provider demographics (age, gender, race/ethnicity)
- Provider specialty
- Years of service
- Facility

Statistical Modeling Approach

- **Multilevel logistic regression**
 - random intercept to model the probability of receiving brief intervention
 - accounting for clustering of patients within providers
 - adjusting for medical facility as a fixed effect

Statistical Analyses

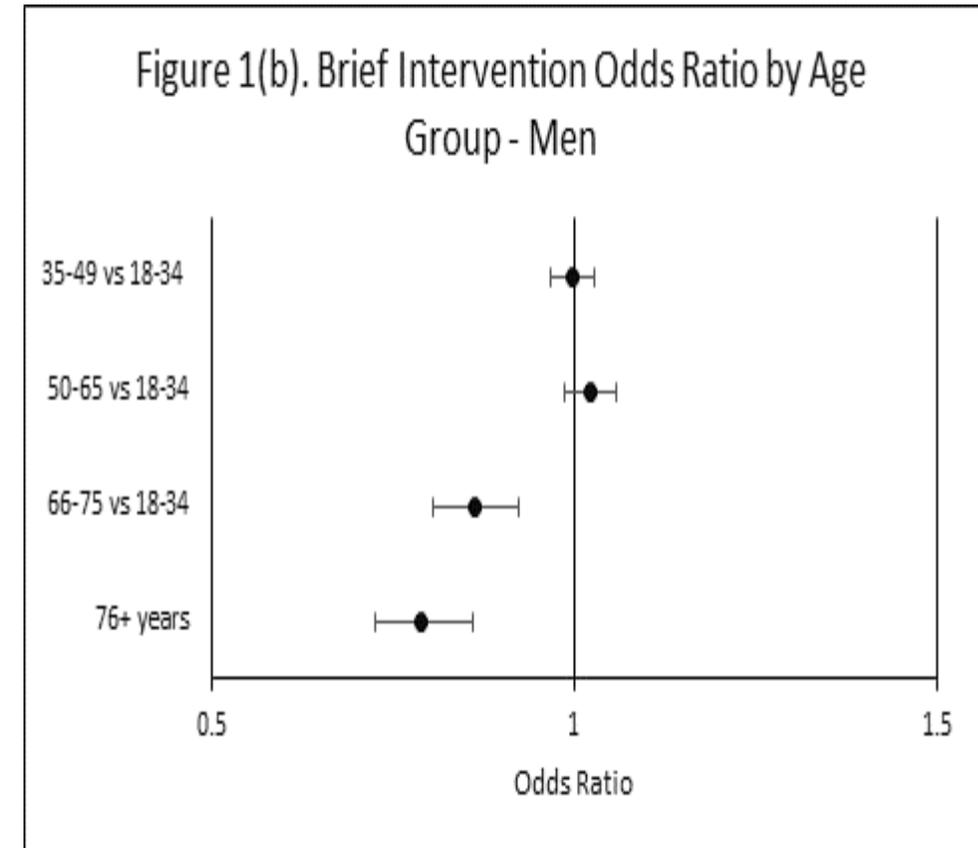
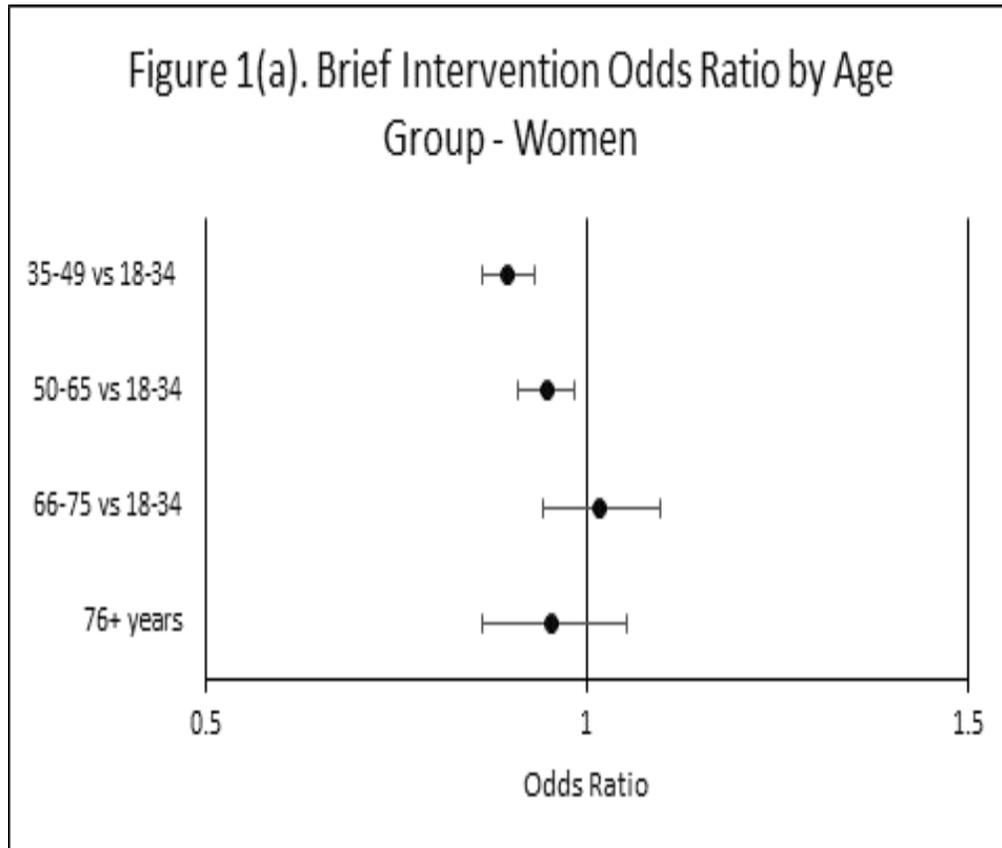
- Series of logistic regression models
 - *sex x race*,
 - *sex x age*,
 - *sex x drinking levels*
- For each model, the odds ratios (ORs) and 95% confidence intervals (CIs)
 - across levels (e.g., age group) for each sex group,
 - between sex groups across levels

Results

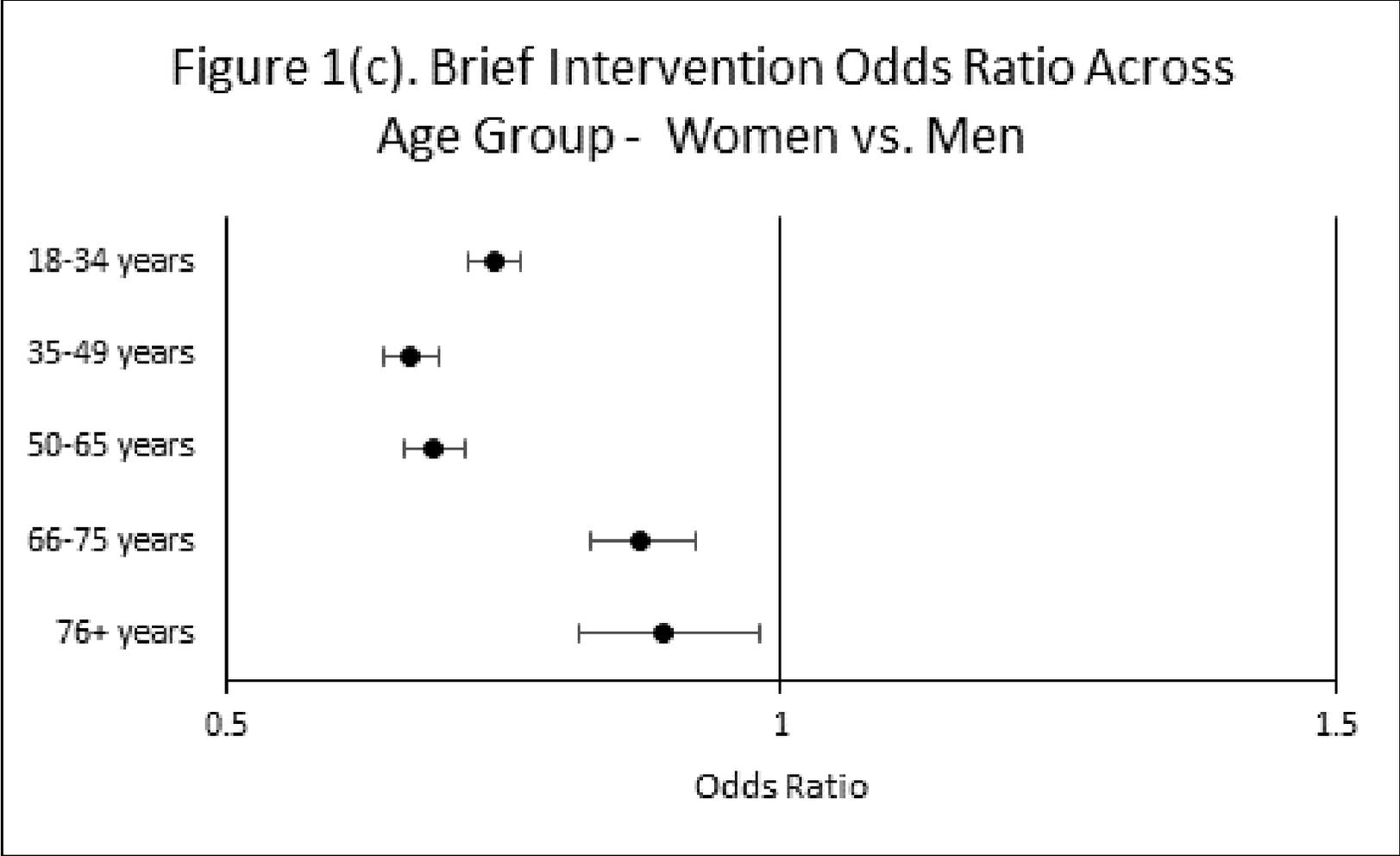
Sample Characteristics

- Majority male (60.3%)
- Predominantly White (63%)
- Mean age ~ 46 years
- A greater proportion of men were overweight (42% vs. 30.4%) or obese (34.6% vs. 27.7%) ($p < 0.001$).
- Women were less likely to smoke (12.6% vs. 17.3%; $p < 0.001$)
- Proportion with any mental health condition was higher among women (22.3% vs. 10.6%; $p < 0.001$)
- Women were more likely to report exceeding only weekly drinking limits (34.1% vs. 21.2%), whereas men were more likely to report exceeding only daily limits (65.6% vs. 52.5%) ($p < 0.001$)

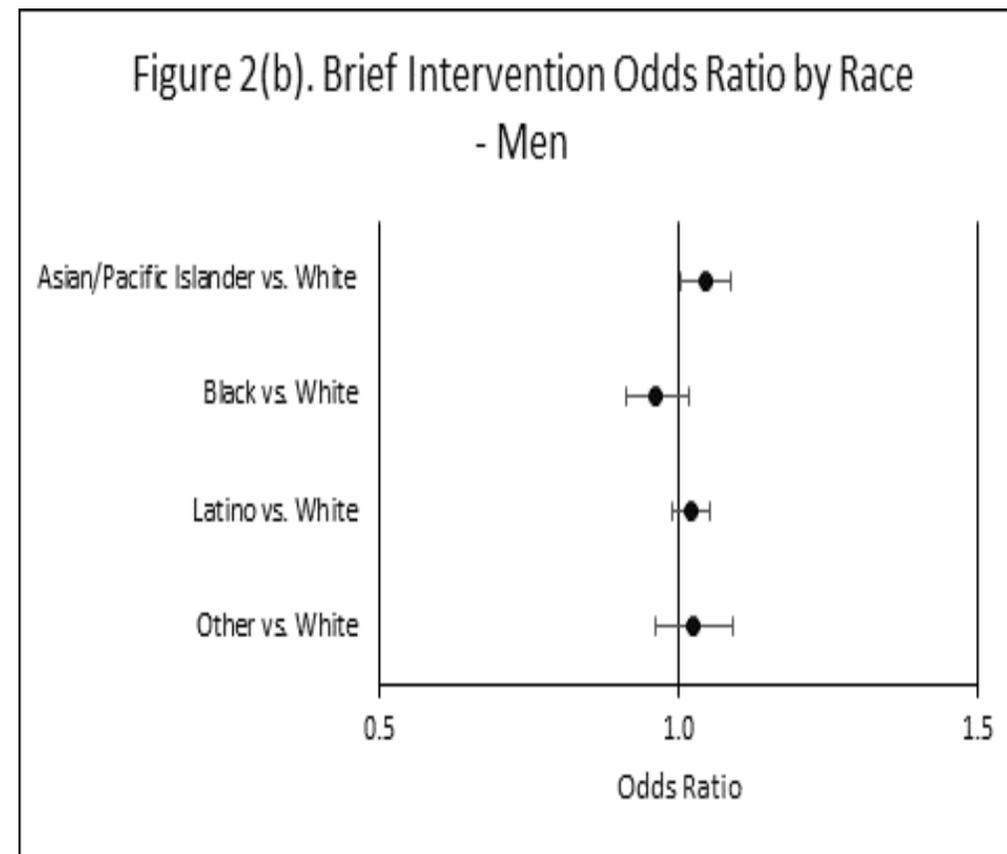
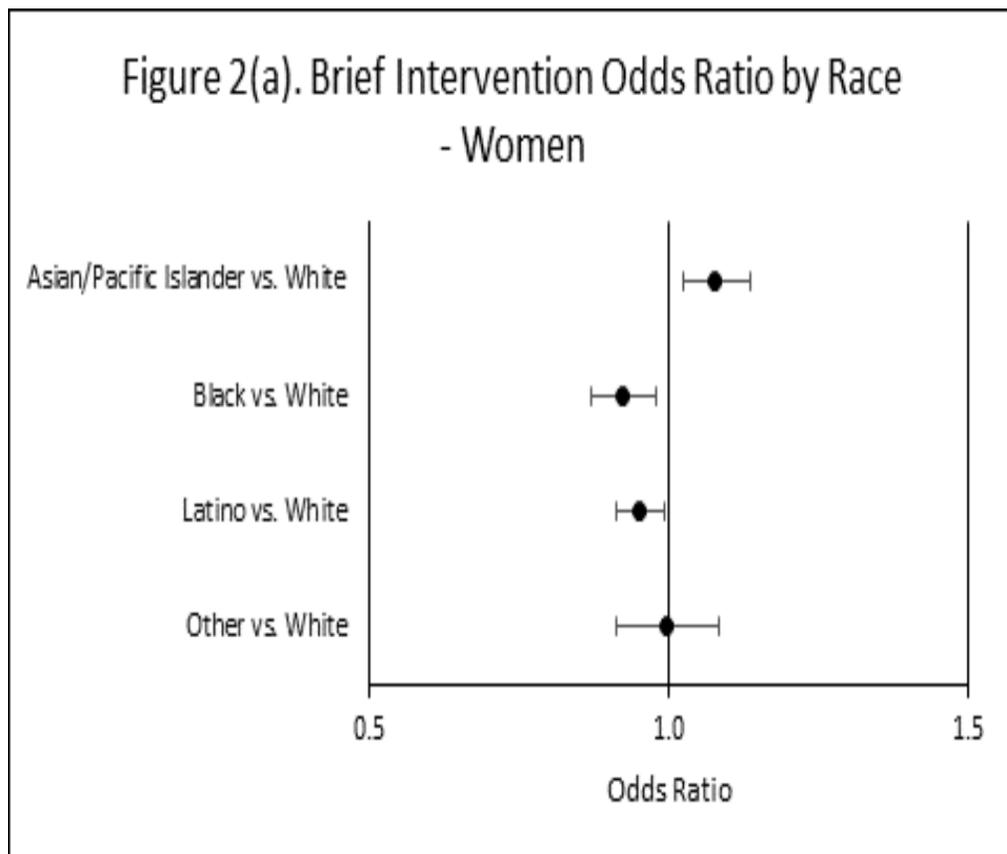
Receipt of Brief Intervention by Age Group



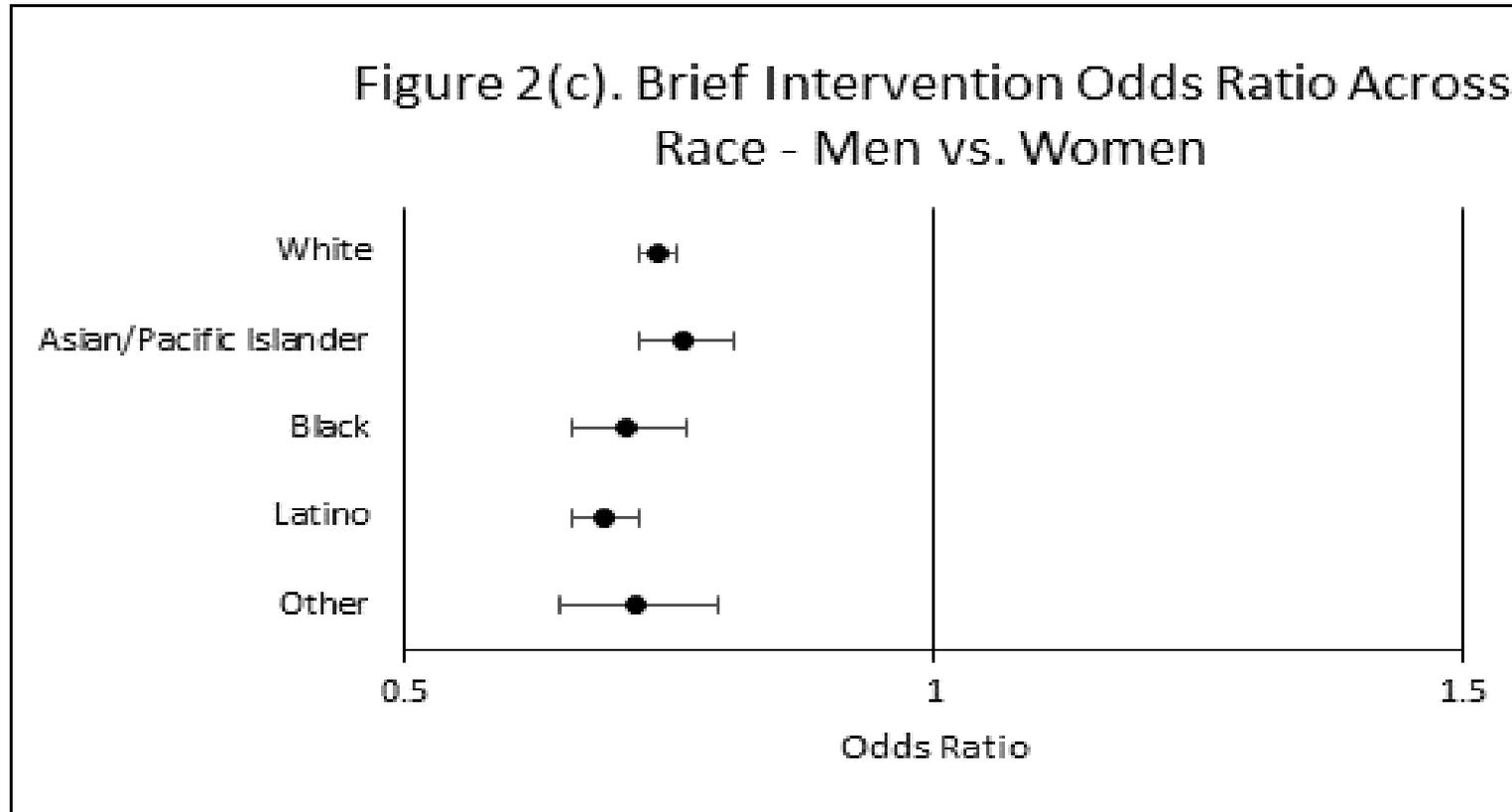
Receipt of Brief Intervention by Age Group – Men vs. Women



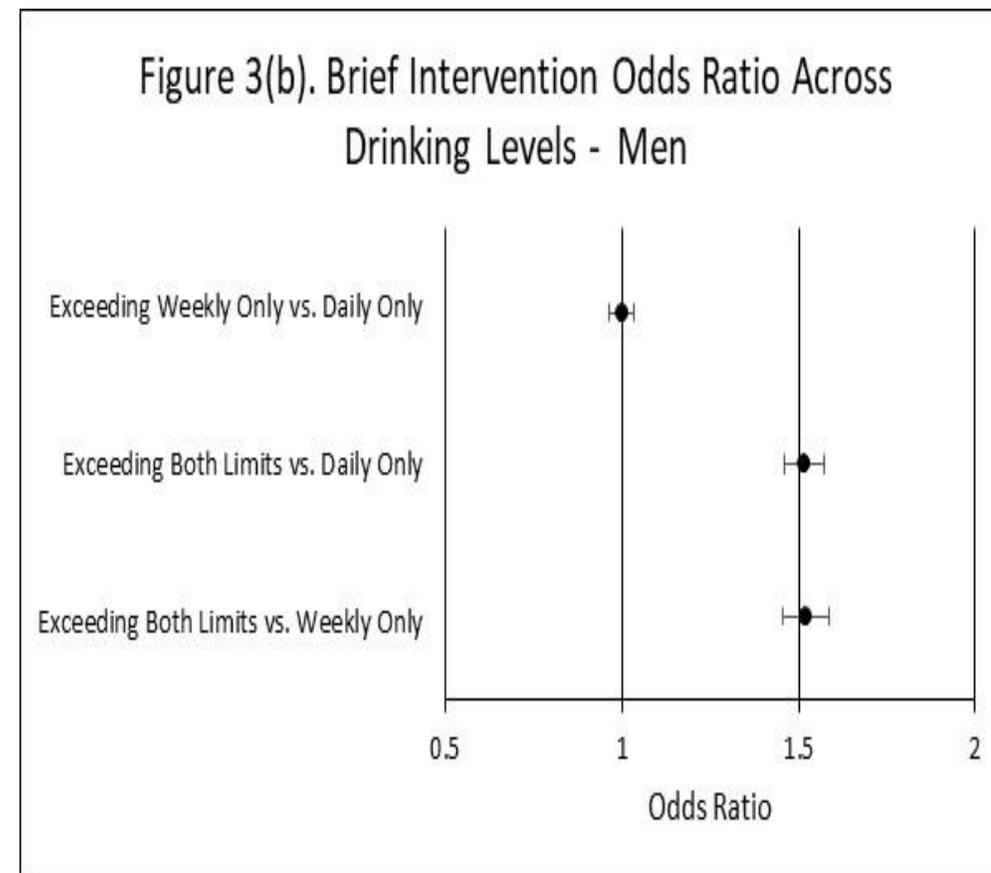
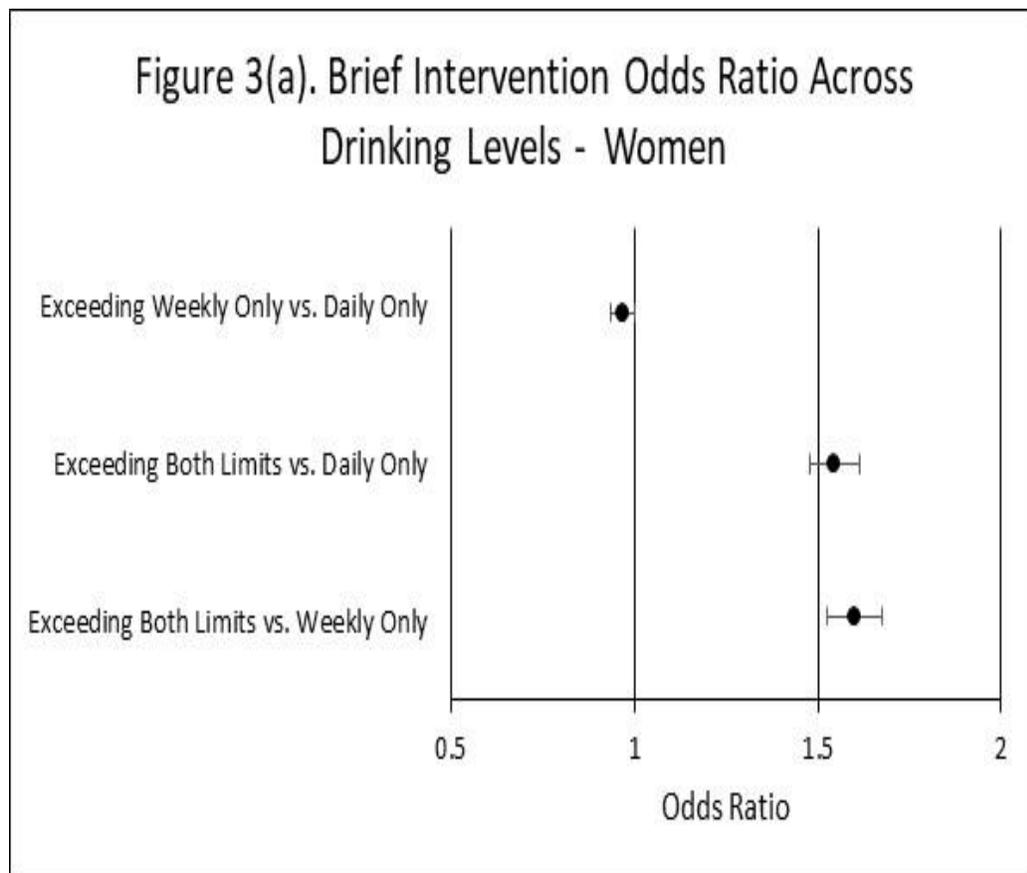
Receipt of Brief Intervention by Race/Ethnicity



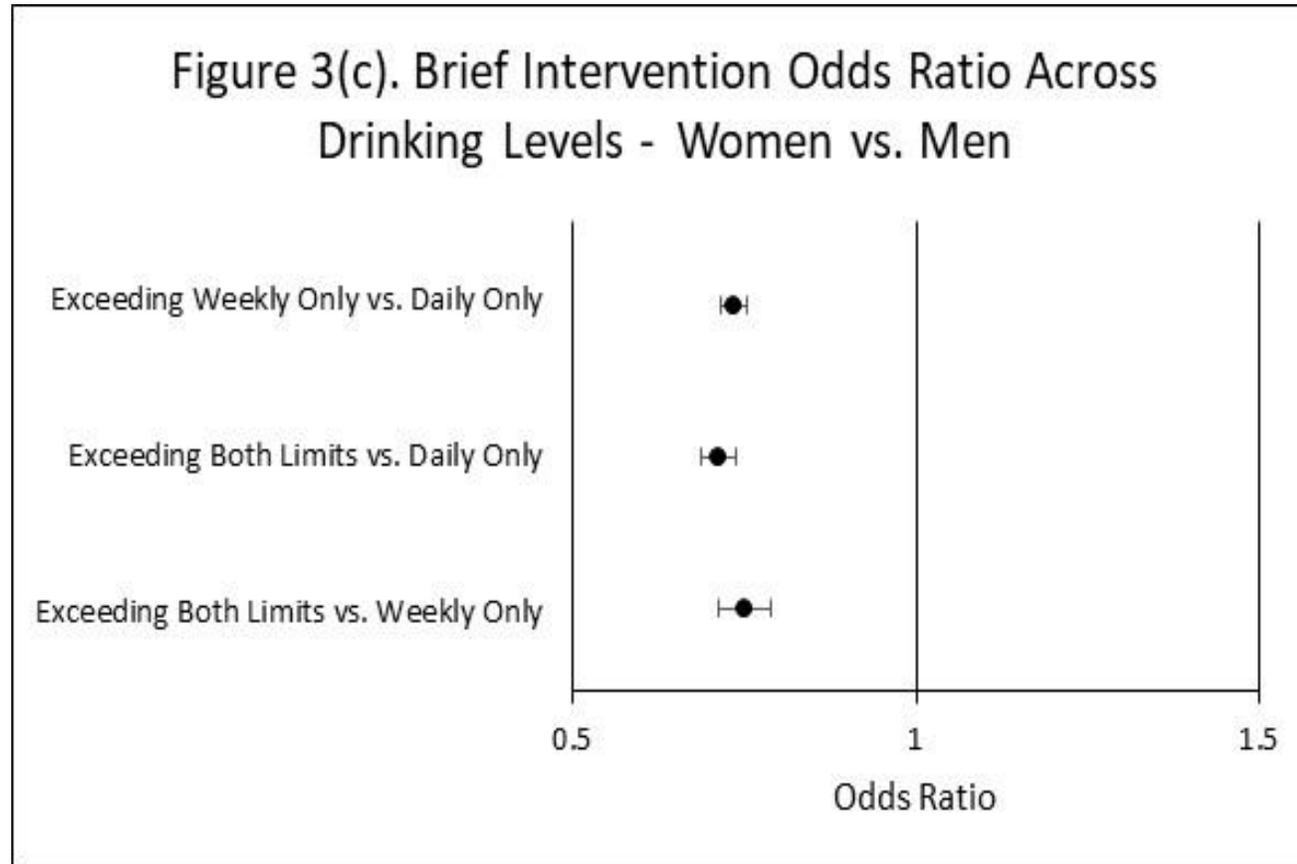
Receipt of Brief Intervention by Race/Ethnicity – Men vs. Women



Receipt of Brief Intervention by Drinking Levels



Receipt of Brief Intervention by Drinking Levels – Men vs. Women



Summary

- Compared to men, **women were less likely to receive a brief intervention** across all age and race/ethnicity groups and drinking levels.
- **Black women** were less likely to receive brief intervention than white women, but this difference was not found among men. **Latina/Hispanic women** had the lowest odds of receiving brief intervention.
- We found the interaction of sex and age to be most pronounced in the middle age groups, i.e., **middle-aged women** reporting unhealthy alcohol use were *much less likely* to receive brief intervention than men of the same age. **Older men (>65)** were less likely to receive brief intervention than younger men.
- Our finding that women who **exceeded both daily and weekly limits** had greater odds of receiving a brief intervention than those exceeding either weekly or daily limits only is somewhat reassuring and in line with earlier research.

Limitations

- EHR Data
- Alcohol consumption was based on self-report, which is subject to social desirability bias and possible underreporting
- Generalizability

Conclusions

- As SBIRT implementation in primary care gains momentum, it is imperative that it reaches all individuals in need without regard to sex, race or age differences.
- Different strategies for framing the delivery of brief intervention may increase its delivery and acceptance
- Policies that address disparities in the receipt of brief intervention are critical in order to ensure equitable access to this important preventive service.

Thank you!

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