

# The Cohort SCDM was Designed to Reach is The Least Vaccinated

## Sociodemographic Disparities in HPV vaccination among US adults, BRFSS 2017-2022

### Authors

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### Background

The incidence of HPV-associated oropharyngeal cancer has surged globally, and the United States (US) has updated its HPV vaccination guidelines to include age-expanded recommendations, particularly **shared clinical decision-making (SCDM)**. The study assessed HPV vaccine initiation and completion among US young and older adults over 45 and examined Behavioral Risk Factor Surveillance System (BRFSS) data from 2017-2022.

### Methods

**Design:** Cross-sectional analysis, BRFSS 2017-2022  
**Sample:** US adults aged 18+ (N = N-initiation 2,379,530, N-completion 1,014,103)  
**Outcomes:** HPV vaccine initiation ( $\geq 1$  dose) and series completion  
**Analysis:** Multivariable logistic regression with survey weights; aORs and 95% CIs  
**Framework:** Andersen's Behavioral Model of Health Services Use

**Keywords:** Human Papilloma Virus (HPV), Vaccination, HPV-associated cancer, Initiation, Completion, Adults, Disparities, BRFSS, shared clinical decision-making (SCDM).

### Results

A predominantly lower proportion of vaccinated adults were above 45 years old, with lower odds of HPV vaccination declining with aging. Prior to the pandemic era, more than half of individuals who were either unvaccinated or initiated but never completed the vaccine series were White Non-Hispanics, individuals employed, insured, or in the South region, and adults who never binge drink. Specifically, a higher percentage of these unvaccinated adults were males, adults aged 35 years and above, married, and had no HIV testing. Adults with lower odds of HPV vaccination were found across all age groups; among Non-Hispanics, Blacks, and other Non-Hispanics; among those living outside the center city within a Metropolitan Statistical Area; in the South or Midwest; and among those with last medical routine checkups within 5 years or more, during and after the pandemic era.

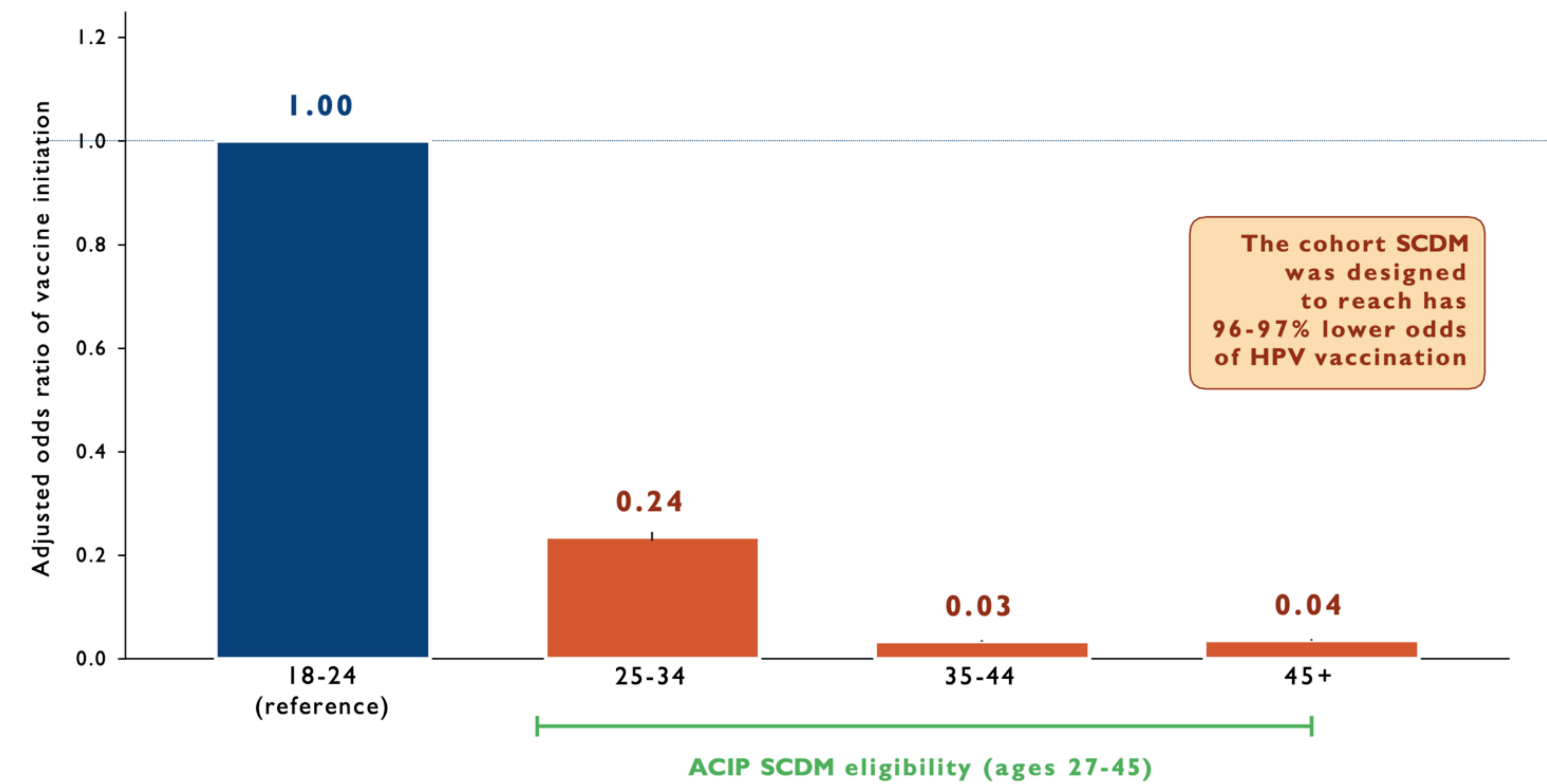
### Conclusion

The findings suggest that expanded initiatives to increase health service utilization and access to promote HPV vaccination uptake and coverage among adults aged 45 and older, men, individuals of Non-Hispanic ethnicity, and adults in the South and the Midwest are crucial to reducing the burden of HPV-related diseases in the US population.

### Key Findings

#### Adults over 25 have markedly lower odds of HPV vaccination

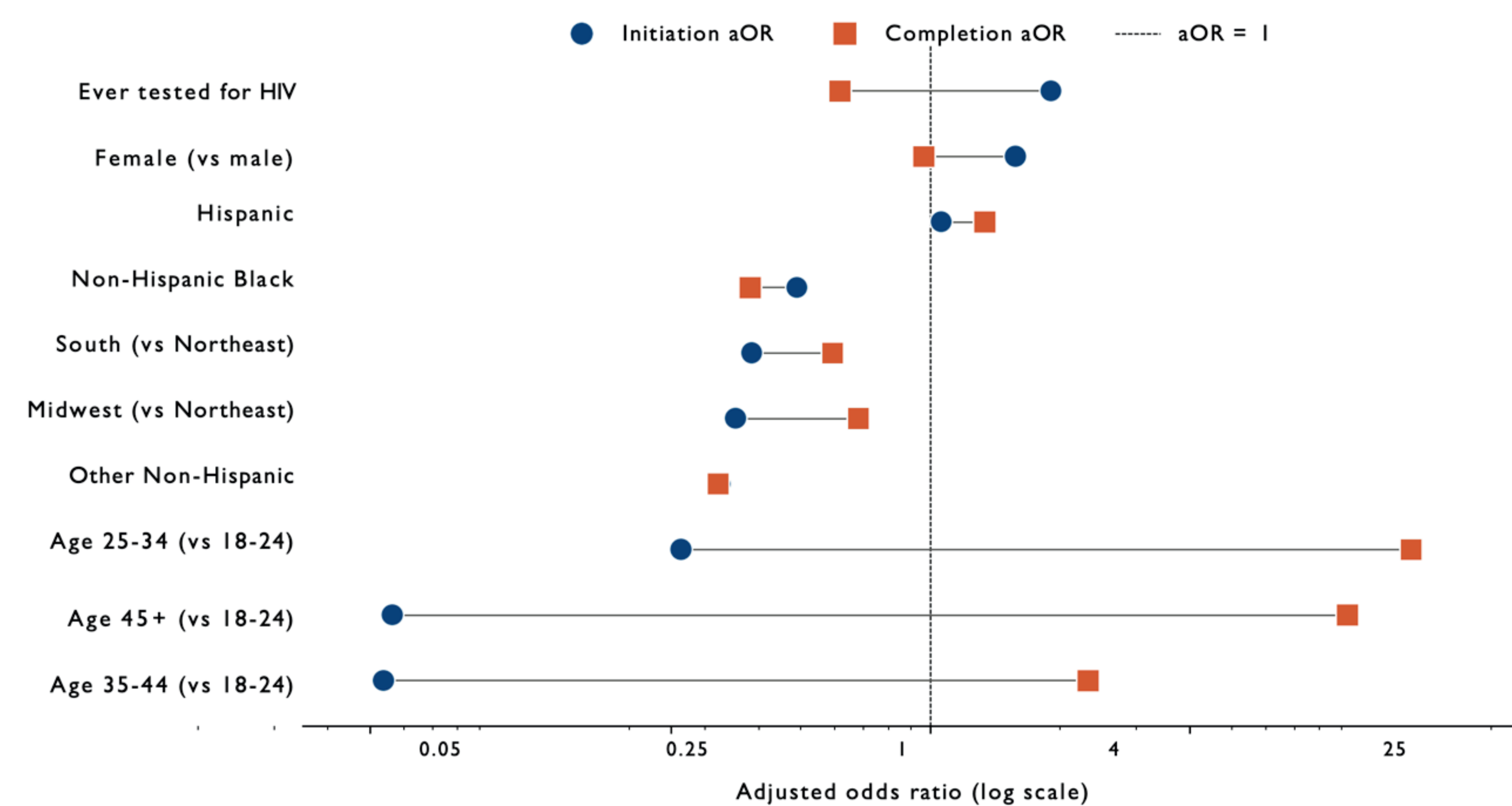
Adults over 25 years have markedly lower odds of HPV vaccination  
 Adjusted OR of initiation by age band - BRFSS 2017-2022 - reference: ages 18-24



#### Predictors of HPV Vaccine Initiation, Ranked

##### HPV Vaccine Series Initiation & Completion

Adjusted ORs from separate initiation and completion models - BRFSS 2017-2022



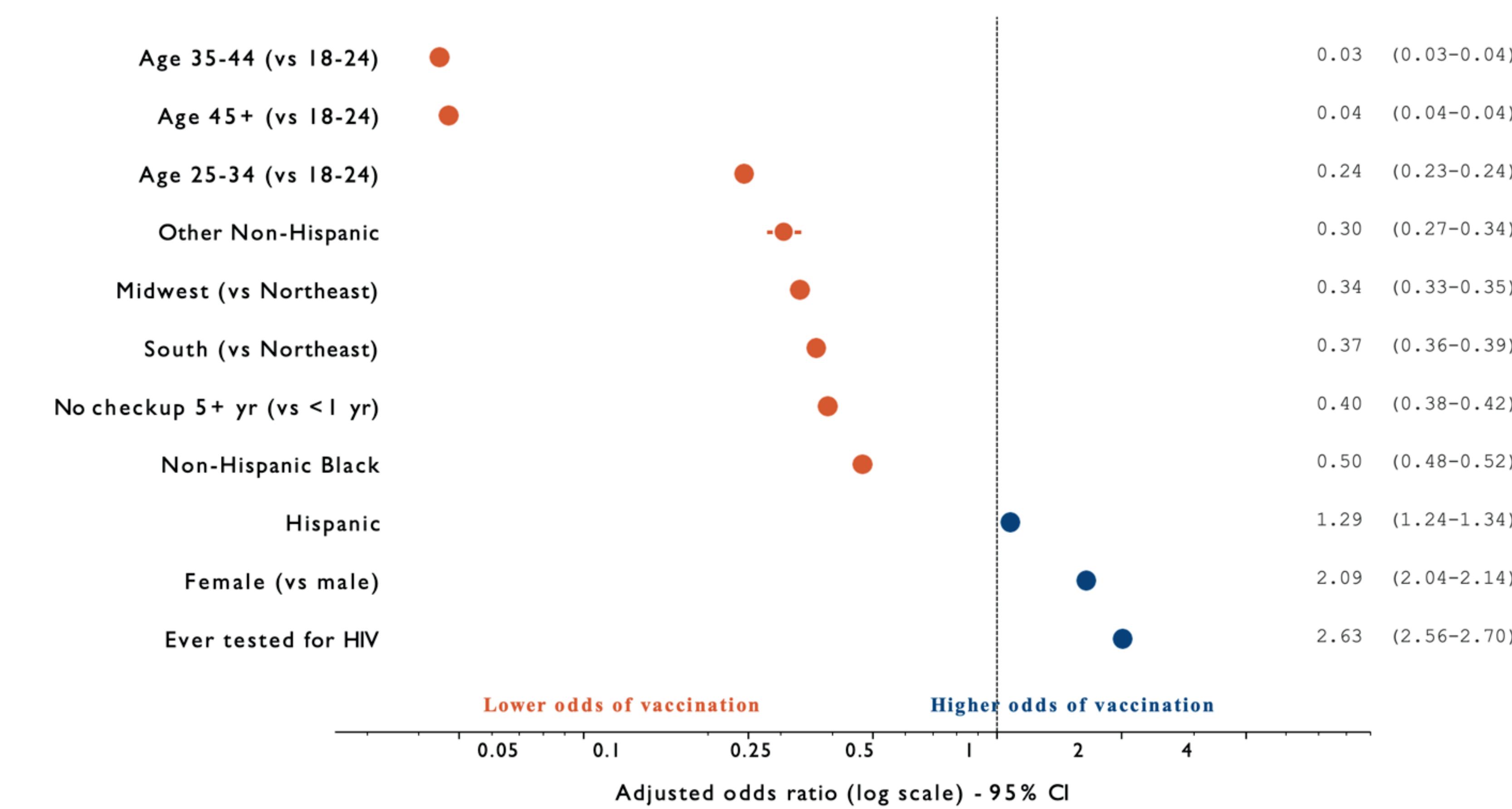
### Regional Disparity



### Starting vs Finishing the Series

#### Who is undervaccinated against HPV?

Adjusted odds ratios - multivariable logistic regression - BRFSS 2017-2022 - Andersen Behavioral Model



### Policy Implication

Modeling studies in the United States estimate that extending HPV vaccination to women and men up to age 45 would prevent approximately 6,500 additional HPV-attributable cancer cases (2,900 cervical and 3,600 non-cervical) over 100 years, in addition to the approximately 1.42 million cases already averted by the current HPV vaccination program.

### Key Sources

- Laprise JF, Chesson HW, Markowitz LE, et al. Effectiveness and Cost-Effectiveness of Human Papillomavirus Vaccination Through Age 45 Years in the United States. *Ann Intern Med.* 2020;172(1):22-29. doi:10.7326/M19-1182
- Laprise JF, Chesson HW, Markowitz LE, Drolet M, Brisson M. Cost-Effectiveness of Extending Human Papillomavirus Vaccination to Population Subgroups Older Than 26 Years Who Are at Higher Risk for Human Papillomavirus Infection in the United States. *Ann Intern Med.* 2025;178(1):50-58. doi:10.7326/M24-0421

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