



# DISPARITIES IN UTILIZATION OF PREVENTIVE SERVICES FOR DIABETES COMPLICATIONS AMONG U.S ADULTS WITH DIABETES

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## Objectives

This study aims to evaluate disparities in the utilization of preventive services for diabetes complications among U.S. adults with diabetes. Using the Medical Expenditure Panel Survey (MEPS)

- To assess racial, ethnic, and socioeconomic disparities in the utilization of preventive services for diabetes complications
- To evaluate the association between insurance coverage, education, affordability barriers, and the utilization of preventive diabetes services

## Methods

We conducted a cross-sectional analysis of pooled 2018–2022 Medical Expenditure Panel Survey (MEPS) data obtained from an IPUMS MEPS extract. The original extract contained multiple MEPS record types; analyses were restricted to person-level records (RECTYPE = “P”). The analytic dataset was further limited to observations from survey years 2018 through 2022.

Associations between sociodemographic factors and guideline-concordant preventive care were examined using design-adjusted survey logistic regression, modeling receiving all five services (CARE\_ALL5) as the dependent variable and including age group, sex, race/ethnicity, insurance category, income group, education, and survey year as predictors.

## Results

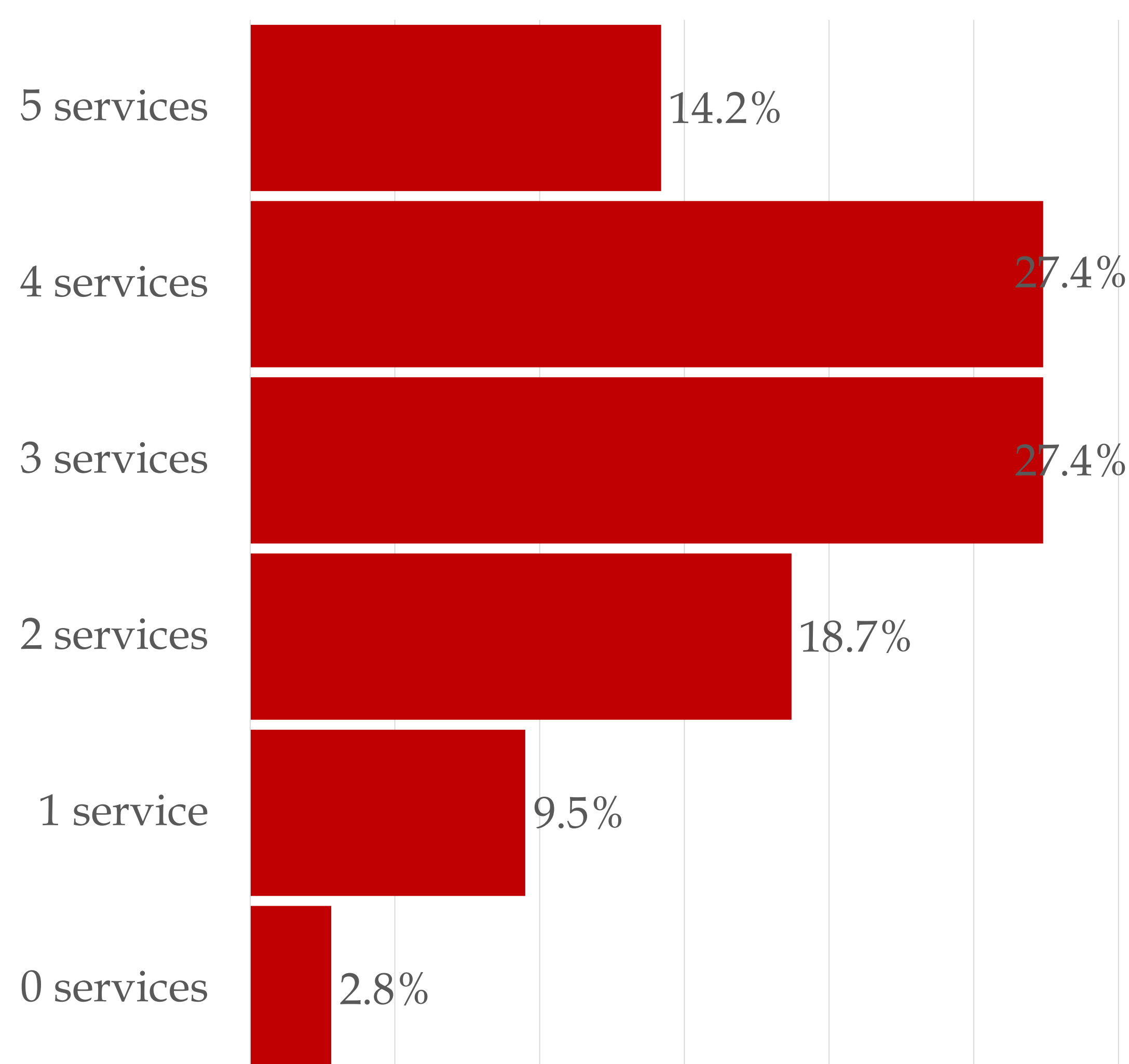


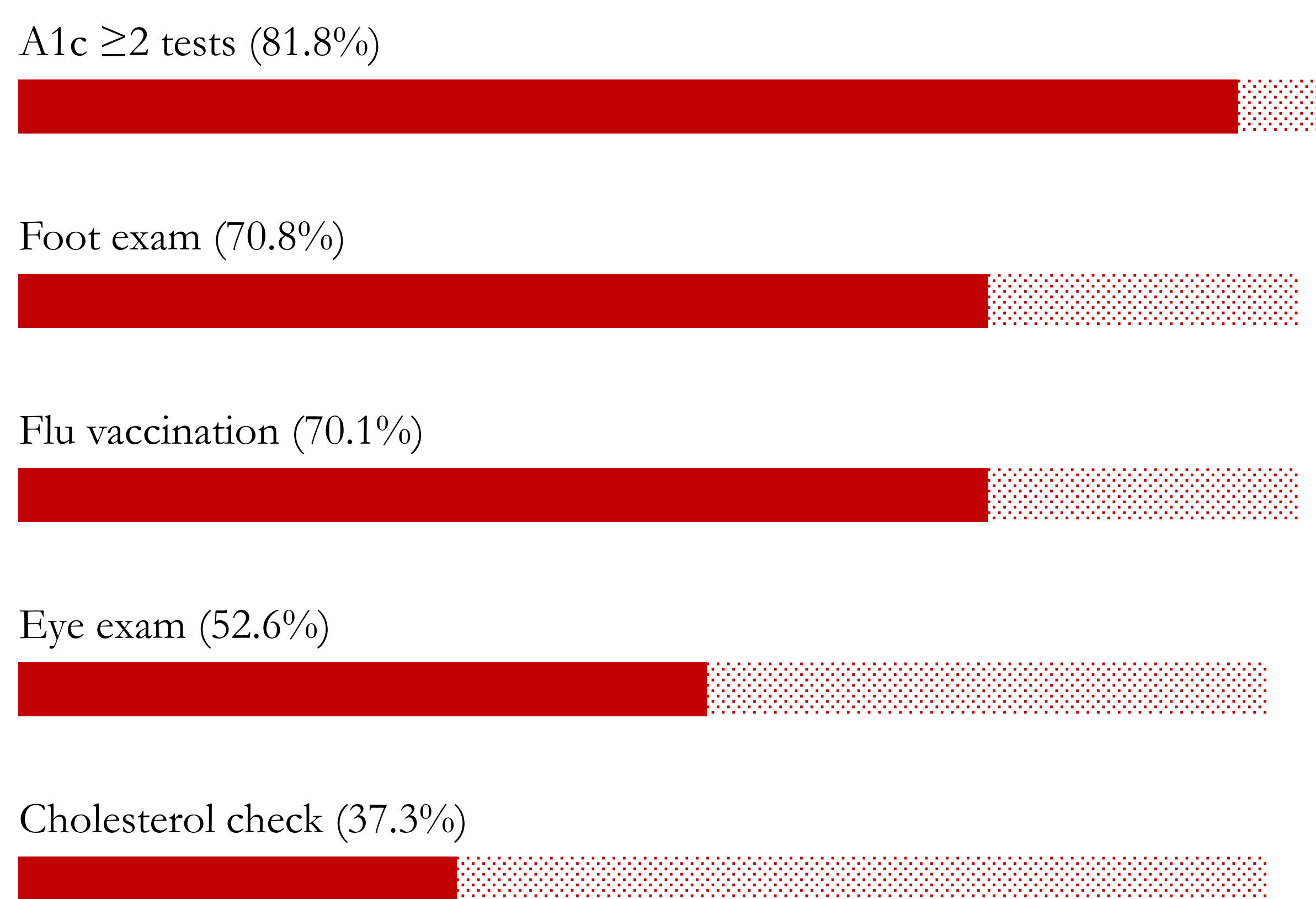
Figure 1. Utilization of diabetes preventive services.

## Results

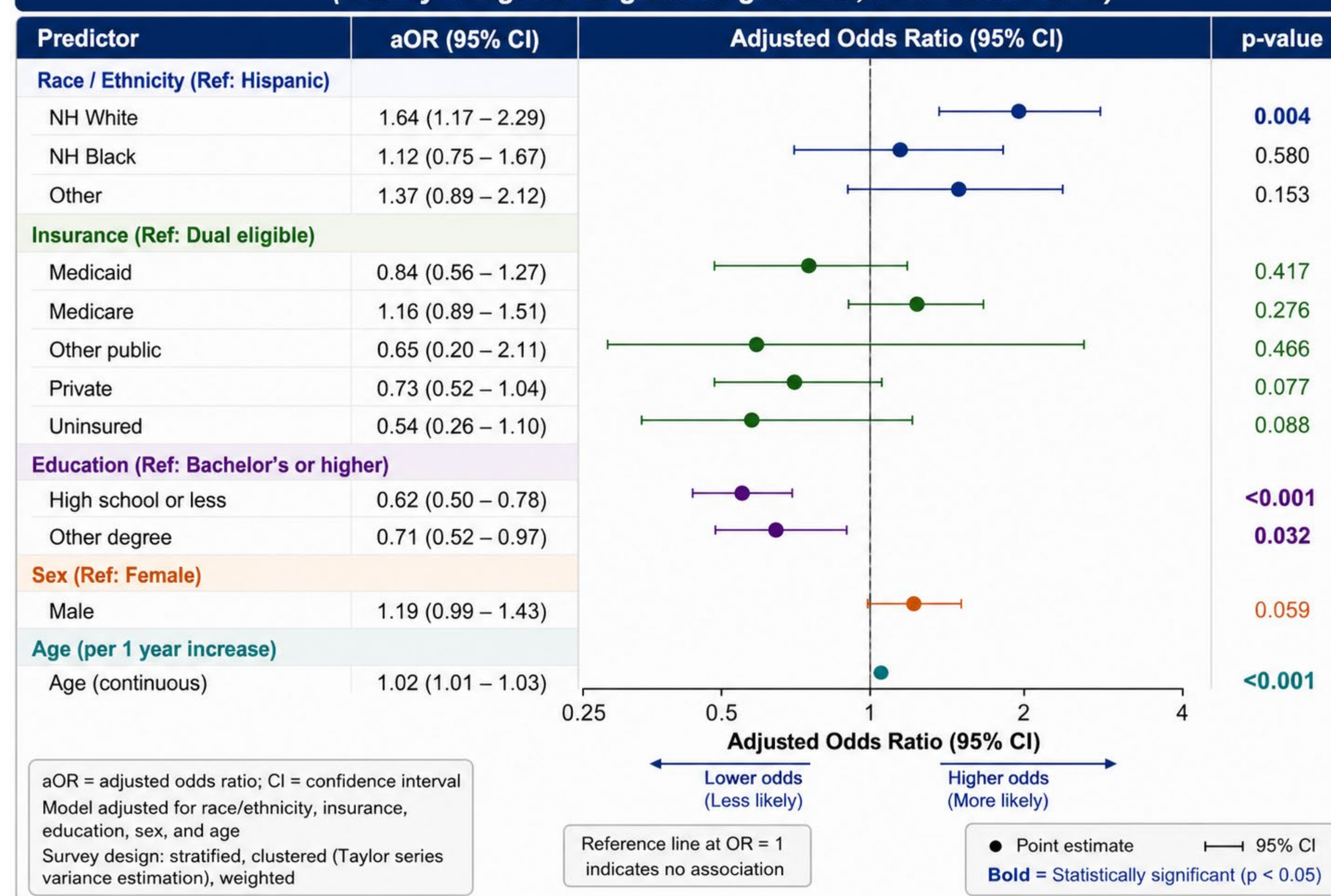
Table 1. Disparities in the use of diabetes preventive services.

| Characteristic            | Did NOT Receive All 5 n (%) | Received All 5 n (%) |
|---------------------------|-----------------------------|----------------------|
| <b>Race/Ethnicity</b>     |                             |                      |
| NH White                  | 13,107,881 (83.1%)          | 2,667,504 (16.9%)    |
| NH Black                  | 3,811,271 (89.0%)           | 469,444 (11.0%)      |
| Hispanic                  | 4,201,831 (91.4%)           | 394,228 (8.6%)       |
| Other                     | 2,334,538 (87.1%)           | 347,084 (12.9%)      |
| <b>Insurance Coverage</b> |                             |                      |
| Dual eligible             | 2,774,858 (86.9%)           | 416,824 (13.1%)      |
| Medicare                  | 9,194,451 (79.9%)           | 2,316,049 (20.1%)    |
| Medicaid                  | 2,673,919 (91.8%)           | 237,355 (8.2%)       |
| Private                   | 7,726,609 (90.2%)           | 837,813 (9.8%)       |
| Uninsured                 | 1,010,754 (94.0%)           | 64,253 (6.0%)        |
| Other public              | 74,930 (92.6%)              | 5,966 (7.4%)         |
| <b>Age Group</b>          |                             |                      |
| 18–34 years               | 1,190,378 (95.6%)           | 55,133 (4.4%)        |
| 35–49 years               | 3,384,784 (93.0%)           | 254,002 (7.0%)       |
| 50–64 years               | 8,419,142 (88.4%)           | 1,100,593 (11.6%)    |
| ≥65 years                 | 10,461,216 (80.9%)          | 2,468,532 (19.1%)    |
| <b>Sex</b>                |                             |                      |
| Male                      | 11,754,829 (84.6%)          | 2,138,580 (15.4%)    |
| Female                    | 11,700,691 (87.1%)          | 1,739,680 (12.9%)    |
| <b>Education</b>          |                             |                      |
| No degree                 | 3,576,399 (90.9%)           | 356,302 (9.1%)       |
| GED                       | 1,363,759 (87.5%)           | 193,970 (12.5%)      |
| High school               | 10,087,682 (86.5%)          | 1,573,247 (13.5%)    |
| Bachelor’s                | 3,750,261 (83.8%)           | 726,354 (16.2%)      |
| Master’s                  | 1,452,604 (76.0%)           | 459,514 (24.0%)      |
| Doctorate                 | 456,647 (76.7%)             | 138,587 (23.3%)      |

### INDIVIDUAL PREVENTIVE SERVICES



Adjusted Odds of Receiving All 5 Diabetes Care Services (Survey-Weighted Logistic Regression, MEPS 2018–2022)



Overall, only 14.2% (95% CI: 13.2–15.1) of individuals received all five recommended diabetes services, while 85.8% did not, indicating low comprehensive care uptake. By race/ethnicity, receipt of all services was highest among non-Hispanic White individuals (16.9%) compared with non-Hispanic Black (11.0%), Hispanic (8.6%), and Other (12.9%), highlighting disparities. By insurance, Medicare beneficiaries had the highest uptake (20.1%), while uninsured individuals had the lowest (6.0%), with similarly low rates among Medicaid (8.2%) and privately insured individuals (9.8%). By sex, males were slightly more likely (15.4%) than females (12.9%) to receive all services.

Multicollinearity was assessed using variance inflation factors (VIF) derived from a linear regression model including all predictors. All VIF values were below 5, indicating no significant multicollinearity.

In a weighted multivariable logistic regression analysis of MEPS 2018–2022, educational attainment was a significant predictor of receiving all five recommended diabetes preventive services ( $p < 0.001$ ). Compared to individuals with a bachelor’s degree or higher, those with a high school education or less had significantly lower odds of receiving all services (OR: 0.62; 95% CI: 0.50–0.78). Race/ethnicity remained significant, with non-Hispanic White individuals having higher odds compared to Hispanics (OR: 1.64; 95% CI: 1.17–2.29). Insurance status was not significantly associated with care after adjustment.

## Conclusions

Less than half of U.S. adults with diabetes receive comprehensive preventive services recommended to reduce the risk of complications. Substantial sociodemographic disparities exist, particularly by education, insurance coverage, and race/ethnicity. Targeted policy and health system interventions are needed to improve equitable access to preventive care for diabetes and reduce avoidable diabetes-related complications.