# Tobacco Product Use Among US Adults with Disabilities: Findings from the 2019 National Health Interview Survey

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## INTRODUCTION

- People with disabilities are a health disparity population.
- Estimations of tobacco product use among people with disabilities vary.
- There is limited information on tobacco product use other than cigarettes among people with disabilities.
- The purpose of this study was to:
  - Present national prevalence of tobacco product use by disability and type.
  - Describe associations between tobacco product use and disability and type.

## METHODS

### Sample

US adults aged ≥ 18 who responded to the National Health Interview Survey in 2019 (n = 31,977).

### Measures

*Disability*
- Six questions related to the following functioning domains: vision, hearing, mobility, communication, cognition, and self-care.
- Respondents could answer:
  - "no difficulty"
  - "some difficulty"
  - "a lot of difficulty"
  - "cannot do at all/unable to do"

*Tobacco Product Use*
- Use of five tobacco products was assessed:
  - Cigarettes
  - E-cigarette
  - Cigars/cigarillos/filtered little cigars
  - Regular pipe/water pipe/hookah, and
  - Smokeless tobacco
- Respondents were coded as current, former/non-current, and ever users.

### Analysis

- Prevalence of tobacco product use by disability type and difficulty.
- Bivariate analyses and multivariable logistic regression models examined the association between tobacco product use and disability type.

## RESULTS

**Table 1.** Study Population Characteristics

| Characteristic | Population (%) | Disability (%) No | Some | A lot/Cannot do | p-value |
|---|---|---|---|---|---|
| **Sex** | | | | | <.0001 |
| Male | 48.3 | 49.3 | 48.0 | 43.1 | |
| Female | 51.7 | 50.7 | 52.0 | 56.9 | |
| **Age group** | | | | | <.0001 |
| 18-24 | 11.7 | 14.3 | 9.0 | 5.0 | |
| 25-44 | 34.1 | 42.7 | 23.8 | 14.9 | |
| 45-64 | 32.9 | 30.7 | 36.3 | 35.1 | |
| =>65 | 21.2 | 12.4 | 30.8 | 45.0 | |
| **Sexual Orientation** | | | | | .014 |
| Lesbian or gay | 1.3 | 1.4 | 1.2 | 1.2 | |
| Straight or heterosexual | 96.8 | 97 | 96.5 | 96.6 | |
| Bisexual | 1.5 | 1.3 | 1.7 | 1.6 | |
| Something else | 0.4 | 0.3 | 0.5 | 0.6 | |
| **Hispanic** | | | | | <.0001 |
| No | 83.6 | 81.3 | 87.3 | 85.7 | |
| Yes | 16.4 | 18.7 | 12.7 | 14.3 | |
| **Race/ethnicity** | | | | | <.0001 |
| Hispanic | 16.5 | 18.9 | 12.9 | 14.4 | |
| Non-Hispanic white | 63.2 | 59.5 | 68.7 | 68.0 | |
| Non-Hispanic Black/Af Am | 11.8 | 11.9 | 11.4 | 11.7 | |
| Non-Hispanic Other race | 8.5 | 9.7 | 6.9 | 6.0 | |
| **Education completed** | | | | | <.0001 |
| Less than High School | 12.4 | 9.3 | 14.8 | 24.7 | |
| High school diploma/GED | 27.5 | 25.8 | 28.6 | 34.3 | |
| Some college / Associate | 31.1 | 31.2 | 32.2 | 27.1 | |
| Bachelor's degree or more | 29.0 | 33.8 | 24.4 | 13.9 | |
| **Annual household income ($)** | | | | | <.0001 |
| <35,000 | 25.2 | 19.2 | 29.7 | 48.8 | |
| 35,000-74.999 | 31.4 | 30.7 | 33.0 | 30.6 | |
| 75,000-99.999 | 13.4 | 14.6 | 12.3 | 8.6 | |
| >=100,000 | 30.0 | 35.4 | 25.0 | 12.1 | |
| **Marital Status** | | | | | <.0001 |
| Married/living with partner | 61.3 | 63.1 | 61.8 | 47.8 | |
| Divorced/ Separated/ Widowed | 16.2 | 11.2 | 20.2 | 34.3 | |
| Never married | 22.5 | 25.7 | 18.0 | 17.9 | |
| **Health Insurance** | | | | | <.0001 |
| Yes | 88.3 | 87.2 | 89.1 | 93.1 | |
| No | 11.7 | 12.8 | 10.9 | 6.9 | |

**Table 2.** Association of current tobacco product use and people with disabilities

| | Cigarettes AOR[a] (95% CI) | E-Cigarettes AOR[a] (95% CI) | Cigar AOR[a] (95% CI) | Pipe AOR[a] (95% CI) | Smokeless AOR[a] (95% CI) |
|---|---|---|---|---|---|
| **Any Disability** | | | | | |
| None | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) |
| Some | 1.39 (1.26, 1.53)** | 1.54 (1.29, 1.84)** | 1.29 (1.06, 1.58) | 1.65 (1.17, 2.33)** | 1.29 (1.04, 1.59)* |
| A lot/Cannot do | 1.69 (1.46, 1.95)** | 1.59 (1.20, 2.13)** | 1.51 (1.11, 2.04)** | 2.39 (1.48, 3.85)** | 1.57 (1.12, 2.20)** |
| **Vision** | | | | | |
| None | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) |
| Some | 1.28 (1.15, 1.44)** | 1.25 (1.03, 1.53)* | 1.32 (1.05, 1.66)* | 1.01 (0.69, 1.47) | 1.16 (0.90, 1.49) |
| A lot/Cannot do | 1.62 (1.19, 2.21)** | 1.33 (0.72, 2.48) | 1.64 (0.97, 2.82) | ‡ | ‡ |
| **Hearing** | | | | | |
| None | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) |
| Some | 1.16 (1.02, 1.31)* | 1.27 (1.01, 1.60)* | 1.18 (0.95, 1.47) | 1.22 (0.79, 1.90) | 1.27 (0.98, 1.63) |
| A lot/Cannot do | 1.31 (0.98, 1.73) | 1.24 (0.70, 2.22) | 1.27 (0.73, 2.20) | ‡ | 1.98 (1.20, 3.26)** |
| **Mobility** | | | | | |
| None | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) |
| Some | 1.34 (1.18, 1.51)** | 1.26 (0.99, 1.59) | 1.31 (1.02, 1.67)* | 1.24 (0.72, 2.16) | 1.05 (0.79, 1.39) |
| A lot/Cannot do | 1.42 (1.19, 1.69)** | 1.15 (0.81, 1.63) | 1.50 (1.04, 2.18)* | 2.10 (1.28, 3.45)** | 1.36 (0.91, 2.02) |
| **Communication** | | | | | |
| None | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) |
| Some | 1.28 (1.06, 1.55)** | 1.19 (0.83, 1.70) | 1.22 (0.86, 1.74) | ‡ | 0.79 (0.51, 1.23) |
| A lot/Cannot do | 0.95 (0.60, 1.49) | ‡ | ‡ | ‡ | ‡ |
| **Cognition** | | | | | |
| None | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) |
| Some | 1.36 (1.20, 1.53)** | 1.78 (1.44, 2.19)** | 1.19 (0.92, 1.53) | 1.85 (1.30, 2.64)** | 1.30 (1.02, 1.67)* |
| A lot/Cannot do | 1.71 (1.35, 2.16)** | 1.96 (1.25, 3.07)** | 1.51 (0.89, 2.54) | ‡ | 1.39 (0.78, 2.47) |
| **Selfcare** | | | | | |
| None | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) | 1 (Ref) |
| Some | 1.36 (1.07, 1.73)* | 1.49 (0.94, 2.37) | 1.74 (1.06, 2.84)* | ‡ | 0.63 (0.35, 1.14) |
| A lot/Cannot do | 0.76 (0.50, 1.15) | ‡ | ‡ | ‡ | ‡ |

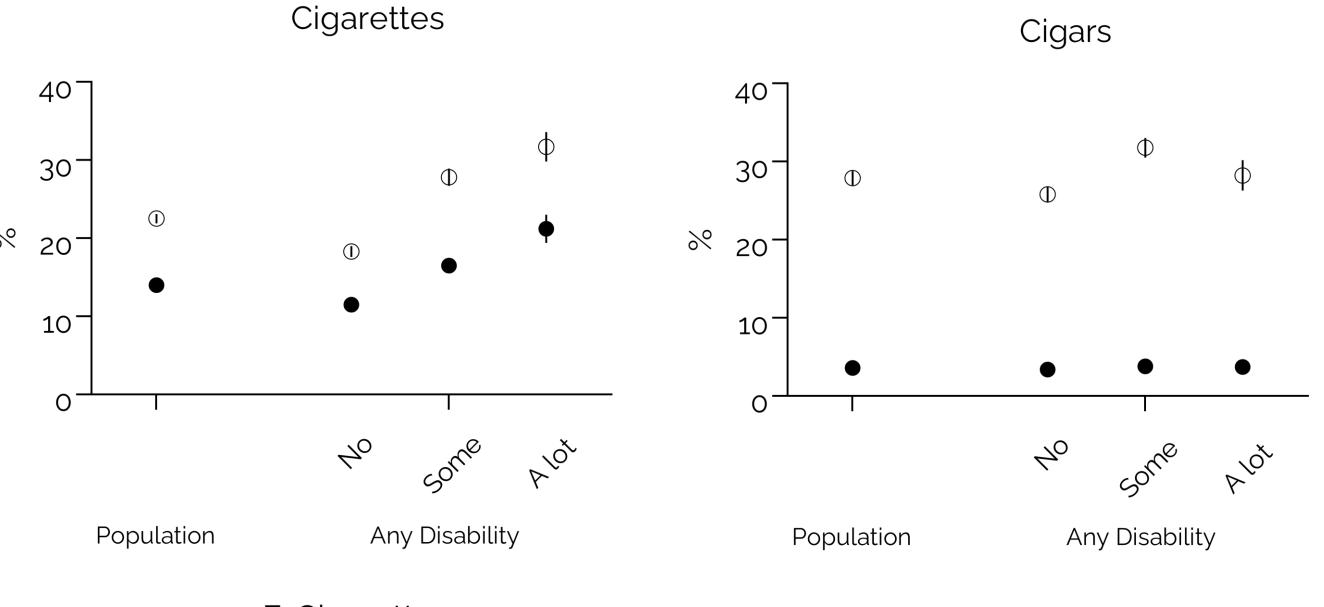*Note.* AOR = adjusted odds ratio. CI = confidence interval. Percentages are weighted
[a]AOR = adjusted odds ratios controlling for sex, age, sexual orientation, race/ethnicity, education level, annual household income, marital status, and health insurance
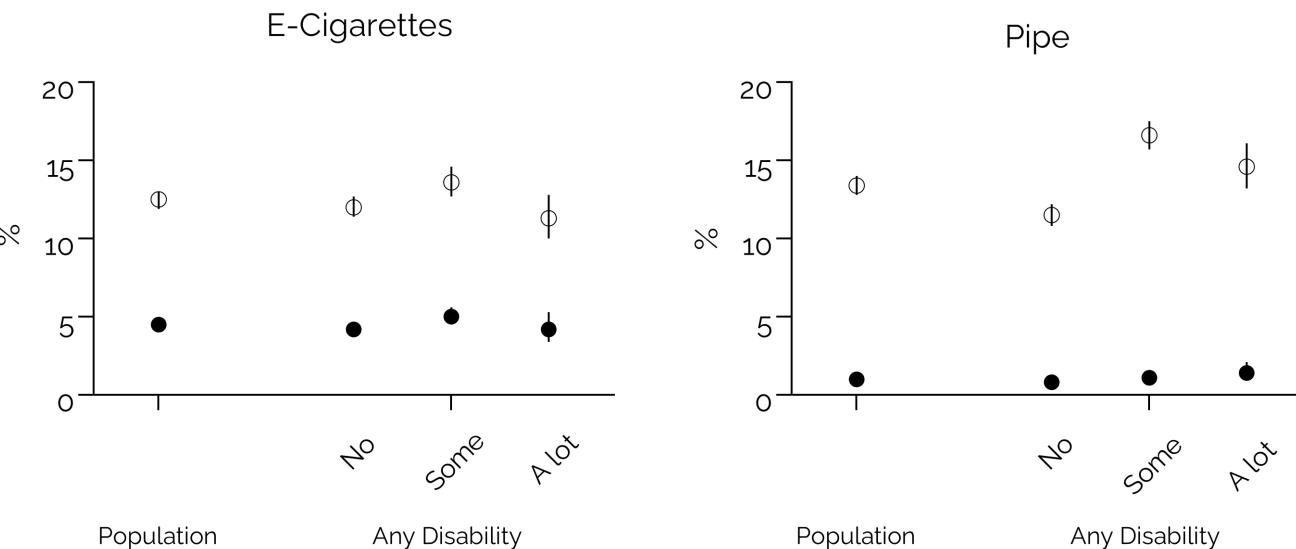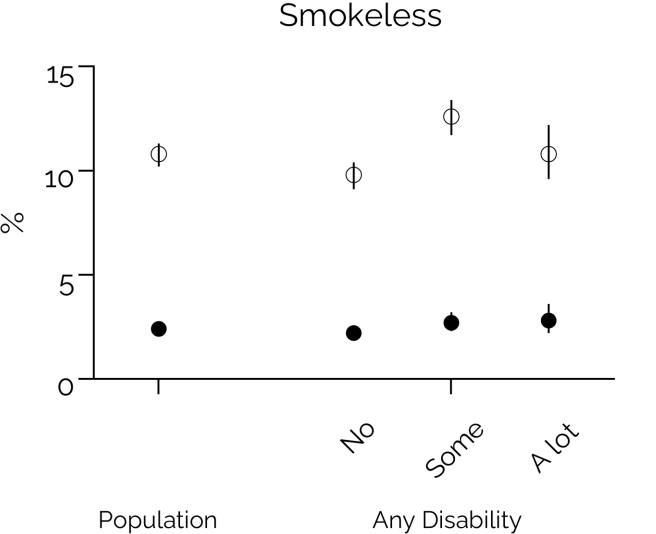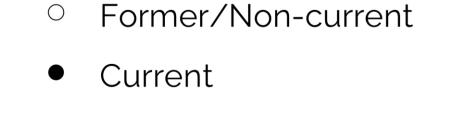**p<0.01; *p<0.05
‡ Suppressed

## RESULTS

**Figure 1.** Prevalence of current and former/non-current tobacco product use



*Note.* Percentage of adults with 95% CIs who use each tobacco product. Along the y-axis is percentage of adults, beginning at 0% and ending at differing levels. Along the y-axis is disability status.

## CONCLUSIONS

- Cigarette smoking was prevalent among people with any disability.
- The odds of being a current cigarette smoker was significantly higher in people with any disability and across multiple types of disabilities.
- Tobacco prevention and cessation programs should consider the needs of people with disabilities.

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