**Sociodemographic Patterns of Exclusive and Dual Use of Menthol/Non-Menthol Cigarettes and ENDS among US Youth (Ages 15-17) – Population Assessment of Tobacco and Health Study (2013-2017)**

Akash Patel, Jana Hirschtick, Bukola Usidame, Nancy L. Fleischer

Center for Social Epidemiology and Population Health, Department of Epidemiology, University of Michigan School of Public Health, Ann Arbor, MI

### SIGNIFICANCE

Sociodemographic patterns of exclusive and dual use of menthol/non-menthol cigarettes and ENDS can reveal disproportionately affected populations and inform future research, policies, and strategies.

### METHODS

Youth (aged 15-17) data from Waves 1-4 of the Population Assessment of Tobacco and Health (PATH) Study

Current use definition: ≥1 day(s) in the past 30 days

Calculated the weighted population prevalence overall and by race/ethnicity and parental education level, as well as sex, household income, and homeownership (not shown), for five categories of current cigarette and ENDS use:

- exclusive ENDS
- exclusive menthol cigarette
- exclusive non-menthol cigarette
- dual menthol cigarette and ENDS
- dual non-menthol cigarette and ENDS

### RESULTS

#### Overall

<table>
<thead>
<tr>
<th>Year</th>
<th>Population Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>1.6</td>
</tr>
<tr>
<td>2014-15</td>
<td>1.6</td>
</tr>
<tr>
<td>2015-16</td>
<td>1.6</td>
</tr>
<tr>
<td>2016-17</td>
<td>1.2</td>
</tr>
</tbody>
</table>

#### Parental Education Level

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Population Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School or Less</td>
<td>2.0</td>
</tr>
<tr>
<td>Some College</td>
<td>2.5</td>
</tr>
<tr>
<td>College or More</td>
<td>3.0</td>
</tr>
</tbody>
</table>

### KEY FINDINGS

#### Overall

Exclusive ENDS use was the only tobacco use pattern to increase across each year and the most prevalent among 15-17 year olds.

#### Parental Education Level

Exclusive ENDS use significantly increased among those whose parent’s education level was some college or more.

#### Race/Ethnicity

Exclusive ENDS use significantly increased among non-Hispanic Whites.

#### Non-Hispanic Whites

Exclusive ENDS use significantly decreased among non-Hispanic Whites, but not other race/ethnicities.

#### Non-Hispanic Blacks

Prevalence of both dual use patterns was 1.0% or less in all 4 waves examined among non-Hispanic Blacks and Hispanics.

### CONCLUSION

Exclusive ENDS use, particularly by non-Hispanic Whites and youth with high socioeconomic status, has driven the increase in tobacco use among 15-17-year-olds in the US.

Monitoring changes in sociodemographic patterns will be crucial for developing and tailoring tobacco prevention strategies targeting youth sub-populations at high risk.

### FUNDING / DISCLOSURE INFORMATION

Funding Statement: Research reported in this publication was supported by the National Cancer Institute of the National Institutes of Health (NIH) and FDA Center for Tobacco Products (CTP) under Award Number U54CA229974.

The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration.

Conflicts of Interest: None.

---

**Figure:**

- **Significance Chart:**
  - Displayed data on the overall prevalence of exclusive ENDS use from 2013-14 to 2016-17 by parental education level.
  - Shows an increase in exclusive ENDS use across all educational levels.

- **Results Chart:**
  - Illustrated the sociodemographic patterns of exclusive ENDS use among youth by race/ethnicity and parental education level.
  - Highlighted significant increases in exclusive ENDS use among non-Hispanic Whites.

- **Key Findings Table:**
  - Summarized the significant changes in tobacco use patterns among youth by sociodemographic factors.
  - Emphasized the role of parental education in driving exclusive ENDS use trends.

**Graphs:**

- **Overall Prevalence:**
  - Chart showing the overall prevalence of exclusive ENDS use from 2013-14 to 2016-17.
  - Data points indicating a consistent increase in exclusive ENDS use across the years.

- **Parental Education Level:**
  - Graphs displaying exclusive ENDS use by high school or less, some college, and college or more.
  - Highlighted differences in ENDS use based on parental education levels.

- **Race/Ethnicity:**
  - Visual representation of ENDS use among different racial/ethnic groups.
  - Noted significant increases among non-Hispanic Whites.

**Significance:**

Exclusive ENDS use is crucial for developing tailored tobacco prevention strategies.

**Findings:**

- Exclusive ENDS use significantly increased among non-Hispanic Whites.

**Conclusion:**

Monitoring sociodemographic patterns will inform tailored tobacco prevention strategies for youth.