Updates to the 2019 National Youth Tobacco Survey: What You Should Know

SURVEILLANCE AND EVALUATION WEBINAR SERIES

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OUTLINE

- Overview & Methods: 2019 National Youth Tobacco Survey (NYTS)
- Key Findings: 2019 NYTS Surveillance Summary
- Considerations for Analyzing 2019 NYTS Data
THE NATIONAL YOUTH TOBACCO SURVEY (NYTS)

- Annual, cross-sectional, school-based, self-administered survey of U.S. middle and high school students (grades 6-12)

- The only nationally representative survey of U.S. middle and high school students that focuses exclusively on tobacco use patterns and associated factors

- NYTS data are used to generate tobacco-related measures among youth that inform public health programs and activities

The NYTS employs a multistage stratified sampling design to produce a nationally representative sample of middle school (grades 6-8) and high school (grades 9-12) students.

### Three-stage sample design
- Probability samples of 1) large counties or groups of smaller, adjacent counties; 2) schools; and 3) classes in which all students are eligible to participate.
- Samples are nationally representative.
- Includes public and private schools.

- Self-administered, anonymous survey.
TOBACCO PRODUCTS ASSESSED IN THE 2019 NYTS

- Cigarettes
- Cigars, Cigarillos, Little Cigars
- Pipes
- Hookah
- Dissolvables
- E-cigarettes
- Heated Tobacco Products
- Snus
- Bidis
- Smokeless
- Roll your own cigarettes
Since 1999, the NYTS had been conducted using paper-and-pencil. Since 2011, it has been conducted in collaboration between CDC and FDA.


2019: Annual NYTS wave first conducted electronically.
Students were provided with a tablet computer (Samsung Galaxy Tab A)

Data were collected through programmed survey application

Allotted a full class period to complete (35-45 minutes)

Data collectors later synchronized all locally stored tablet data to central data repository via encrypted WiFi transmission

Make-ups:

- Absent students could participate using a web-based version of the questionnaire programmed to mimic the tablet-based applications
2019 NYTS CONSTRUCTS

- Behaviors
  - Current and ever use
  - Cessation
- Flavored tobacco product use
- Tobacco-related beliefs and harm perceptions
- Knowledge and attitudes
- Exposure to pro- and anti-tobacco influences
- Tobacco product access and purchasing behaviors
- Secondhand smoke exposure/secondhand e-cigarette aerosol exposure
104 questions with a skip-pattern logic
Available in English only
One or two questions per screen to minimize scrolling
Images are provided for various tobacco products
Log-in with randomly-generated, randomly-assigned, five-digit access code

Soft validation
- For specific questions
- At the end of survey
- Once they hit the SUBMIT button, access code is no longer available on that tablet
Access codes are tied to schools and classrooms
Reduced student burden
STUDENT SIGN-IN CARDS AND SURVEY ACCESS

2019 National Youth Tobacco Survey (NYTS)

- Open the tablet cover.
- Press the black button in the bottom center of the tablet to turn on.
- Swipe up to unlock the tablet and enter “1 2 3 4”.
- Open the CDC/National Youth Tobacco Survey app.
- Enter your unique access code shown here: D5G8T

- Click “Begin Survey”.
- Read the survey instructions page before answering any questions.
- Complete the survey.
- Click “Submit” when you are finished.
- Close the tablet cover.

Thank you!
Sample Questions

- Student uses their finger to select their response and then the “>” button to advance
- User experience enhanced by including images of specific tobacco products
- Images can be revealed or hidden by the student
Sample Questions

- Some questions have “write-in” responses
- Data quality is improved by validation
- Progress bar shows completion level
PRIOR TO SUBMITTING

- Students may skip any question they do not wish to answer; responses are not required

- At the end of the questionnaire, students will be prompted to return to any question they could have answered, but did not

- Students may review and/or answer questions OR submit their survey
Centers for Disease Control and Prevention

MMWR
Morbidity and Mortality Weekly Report

Surveillance Summaries / Vol. 68 / No. 12

December 6, 2019

Tobacco Product Use and Associated Factors Among Middle and High School Students — United States, 2019

Teresa W. Wang, PhD; Andrea S. Gentry, PhD; Melissa R. Creaner, PhD; Karen A. Cullen, PhD; Enver Holder-Hayes, MPH; Michael D. Sawley, PhD; Gabriella M. Anic, PhD; David B. Portnoy, PhD; Sean Hu, DrPH; David M. Homa, PhD; Ahmed Jamal, MBBS; Linda J. Neff, PhD

1 Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC
2 Center for Tobacco Products, Food and Drug Administration, Silver Spring, Maryland
NYTS 2019 SURVEILLANCE SUMMARY

- 9 Tables and 3 Figures Covering:
  - Ever Tobacco Product Use
  - Current (Past 30-Day) Tobacco Product Use
  - Frequency of Use
  - Flavored Tobacco Product Use
  - Reasons for E-cigarette Use
  - Exposure to Tobacco Product Advertising
  - Harm Perceptions
  - Curiosity and Susceptibility
  - Urges to Use Tobacco Products
  - Quitting Behaviors

Learn more at bit.ly/NYTS-2019
Source: National Youth Tobacco Survey, 2019
FIGURE 1. PERCENTAGE OF MIDDLE AND HIGH SCHOOL STUDENTS WHO CURRENTLY USE ANY TOBACCO PRODUCT, ANY COMBUSTIBLE TOBACCO PRODUCT, TWO OR MORE TOBACCO PRODUCT TYPES, AND SELECTED TOBACCO PRODUCTS, BY SCHOOL LEVEL AND OVERALL
FLAVORED TOBACCO PRODUCTS

Nearly 7 in 10 (69.6%; 4.3 million) middle and high school student current tobacco product users reported flavored tobacco product use.
REASONS FOR E-CIGARETTE USE AMONG EVER E-CIGARETTE USERS

55.3% “I was curious about them”

30.8% “Friend or family member used them”

22.4% “They are available in flavors....”

21.2% “I can use them to do tricks”

TABLE 5. Reasons for e-cigarette use* among middle and high school students who reported ever using e-cigarettes,† by school level, sex, and race/ethnicity — National Youth Tobacco Survey, United States, 2019
CURIOSITY AND SUSCEPTIBILITY

Among never e-cigarette users, 39.1% were curious about using e-cigarettes.

Among never cigarette smokers, 37.0% were curious about smoking cigarettes.
Nearly 9 in 10 middle and high school students (86.3%; 22.9 million) reported exposure to tobacco product advertisements or promotions from at least one source.
Perceiving **no harm or little harm** from intermittent tobacco product use (use on some days but not every day) was:

- **28.2%** for e-cigarettes
- **16.4%** for hookahs
- **11.5%** for smokeless tobacco products
- **9.5%** for cigarettes.
URGES TO USE TOBACCO PRODUCTS

- **24.7%** of current tobacco product users experienced cravings to use tobacco products during the past 30 days
- **13.7%** of current tobacco product users reported wanting to use a tobacco product within 30 minutes of waking

Table 9: Urges to use tobacco products and quitting behaviors among middle and high school students who reported current tobacco product use,* by school level, sex, and race/ethnicity — National Youth Tobacco Survey, United States, 2019

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Urges to use tobacco products</th>
<th>Quitting behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Past 30-day craving</td>
<td>Within 30 minutes of waking</td>
</tr>
<tr>
<td></td>
<td>% (95% CI)</td>
<td>Estimated no.††</td>
</tr>
<tr>
<td>Overall</td>
<td>24.7 (22.0–27.6)</td>
<td>1,510,000</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
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<tr>
<td>Male</td>
<td>23.8 (19.9–28.1)</td>
<td>760,000</td>
</tr>
<tr>
<td>Female</td>
<td>25.8 (22.9–28.9)</td>
<td>740,000</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
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<tr>
<td>White, non-Hispanic</td>
<td>28.7 (25.5–32.1)</td>
<td>1,070,000</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>15.8 (12.0–20.6)</td>
<td>100,000</td>
</tr>
<tr>
<td>Hispanic††</td>
<td>18.3 (15.1–21.5)</td>
<td>250,000</td>
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<tr>
<td>Other, non-Hispanic</td>
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<td>—</td>
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<tr>
<td>High school</td>
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<tr>
<td>Sex</td>
<td></td>
<td></td>
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<tr>
<td>Male</td>
<td>25.5 (21.1–30.5)</td>
<td>630,000</td>
</tr>
<tr>
<td>Female</td>
<td>26.3 (22.9–30.0)</td>
<td>560,000</td>
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<tr>
<td>Race/Ethnicity</td>
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<tr>
<td>White, non-Hispanic</td>
<td>29.9 (26.2–33.8)</td>
<td>900,000</td>
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<tr>
<td>Black, non-Hispanic</td>
<td>16.1 (11.7–21.8)</td>
<td>70,000</td>
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<tr>
<td>Hispanic††</td>
<td>17.4 (14.0–21.4)</td>
<td>160,000</td>
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<tr>
<td>Other, non-Hispanic</td>
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<tr>
<td>Middle school</td>
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<tr>
<td>Sex</td>
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<tr>
<td>Male</td>
<td>18.2 (14.7–22.4)</td>
<td>130,000</td>
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<tr>
<td>Female</td>
<td>24.6 (19.4–30.8)</td>
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<td>White, non-Hispanic</td>
<td>23.7 (18.5–29.9)</td>
<td>160,000</td>
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<td>Black, non-Hispanic</td>
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<td>—</td>
</tr>
<tr>
<td>Hispanic††</td>
<td>20.3 (15.7–25.8)</td>
<td>90,000</td>
</tr>
</tbody>
</table>
• More than half (57.8%) of current tobacco product users reported seriously thinking about quitting all tobacco products in 2019.

• 57.5% reported they had stopped using all tobacco products for one or more days because they were trying to quit.
MAJOR METHODOLOGICAL CHANGES IN 2019

- Changes included the electronic mode of survey administration, tobacco product images, and preamble descriptions (e.g., specific brand examples).

- Thus, direct attribution of 2018-2019 changes to actual increases in product use is not possible because changes made to the 2019 survey also could lead to higher estimates of use.

The next several questions are about electronic cigarettes or e-cigarettes. Some brand examples include JUUL, Vuse, MarkTen, and blu…
Due to changes in collection methods, survey language, and inclusion of images, some 2019 NYTS estimates should not be directly compared to, or combined with, previous years.

Circumstances to consider for NYTS indicators:
- Did the question language change?
- Did the question universe change?
- Were images incorporated?

Avoid direct statistical comparisons (e.g. t-tests, trend analyses) between 2019 and prior years of NYTS data if the measure changed over time.

Otherwise, use caution when combining data across years; denote the 2019 mode change in methods and/or figures.
TOBACCO PRODUCT USE AMONG HIGH SCHOOL STUDENTS, 2011-2019*

2019 data may be presented alongside data from previous years; denote that modifications were made in 2019 that limit comparisons with previous survey years.

* Modifications were made to the 2019 National Youth Tobacco Survey that limit comparisons with previous survey years; observed differences between 2019 and previous years could be the result of these modifications and not a change in actual use of these products. No statistical trends over time were conducted.
ACCESSING NYTS 2019 AND HISTORICAL DATA

https://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm

Historical NYTS Data and Documentation

CDC expects that users of the NYTS data set will adhere to the following standards for the analysis and reporting of research data. All research results should be presented and/or published in a manner that protects the confidentiality of participants. NYTS data will not be presented and/or published in any way in which an individual or school can be identified. Therefore, users will:

1. Not attempt to link nor permit others to link the data with individually identified records in another database.
2. Not attempt to learn the identity of any person or school included in the data and will not deliberately combine this data with other CDC or non-CDC data for the purpose of matching records to identify individuals or schools. If you should inadvertently discover the identity of any person or school, you will ensure the identity of any person or school is kept confidential, and not used in any publications and/or presentations.
3. Not imply or state, either in written or oral form, that interpretations based on analysis of the data reflect official CDC policies or positions.
4. Understand that sub-national analyses are not appropriate for this national sample and will not be conducted.

By using these data you signify your understanding of the above-stated terms.

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Data are available in SAS and Excel codebook, and methodology view the datasets.
KEY TAKEAWAYS

The NYTS is the only nationally representative survey of U.S. middle and high school students that focuses exclusively on tobacco use patterns and associated factors.

In 2019, NYTS for the first time was administered in schools using electronic data collection methods.

Overall, 6.2 million U.S. middle (1.5 million) and high school (4.7 million) students were current (past 30-day) users of some type of tobacco product in 2019.

Observed differences in youth tobacco product use between 2019 and previous years could be the result of methodological changes and not a change in actual use of tobacco products; analytic considerations should be made when using these data.
Contact Information

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