

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

SURVEILLANCE AND EVALUATION WEBINAR SERIES

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National Center for Chronic Disease Prevention and Health Promotion

Office on Smoking and Health



OUTLINE



Overview & Methods: 2019 National Youth Tobacco Survey (NYTS)

Key Findings: 2019 NYTS Surveillance Summary

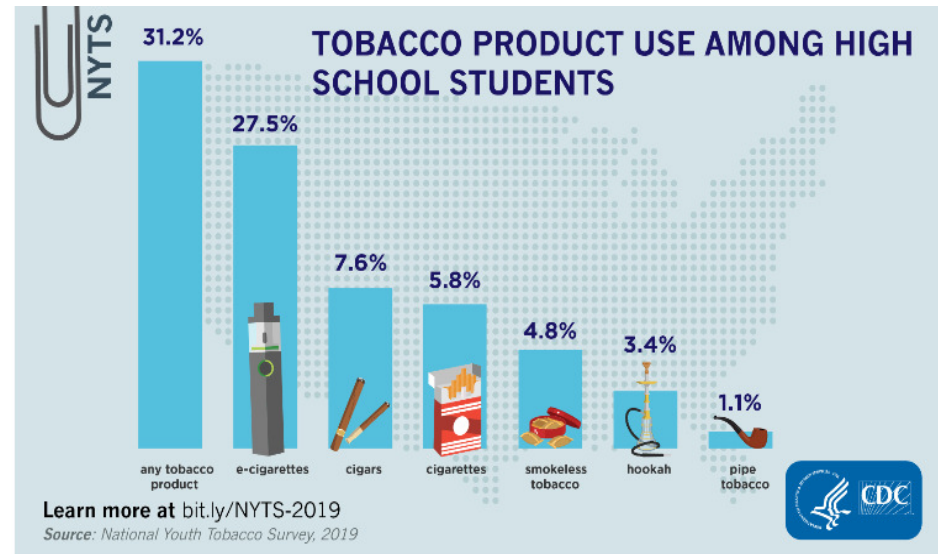
Considerations for Analyzing 2019 NYTS Data

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- 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

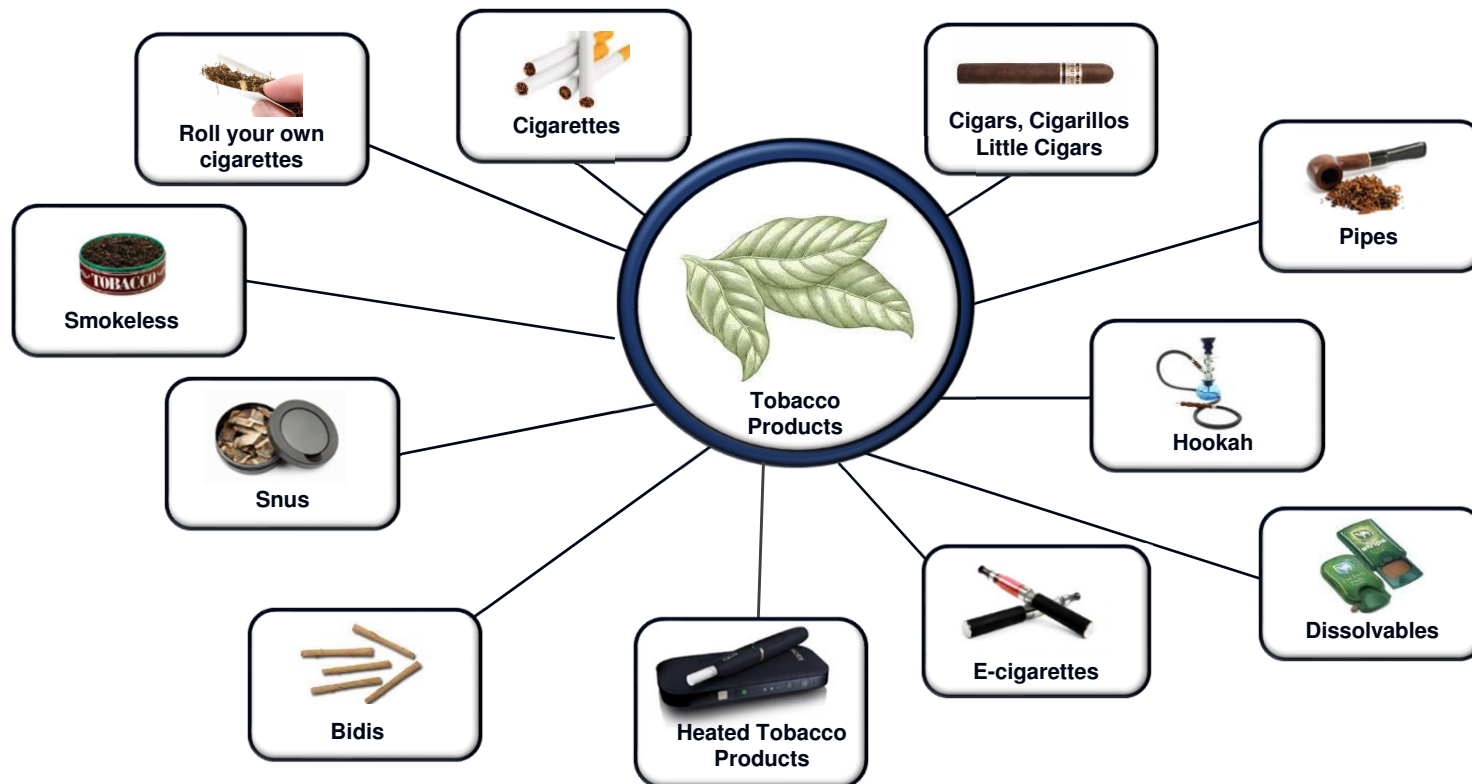


National Youth Tobacco Survey, 2019.

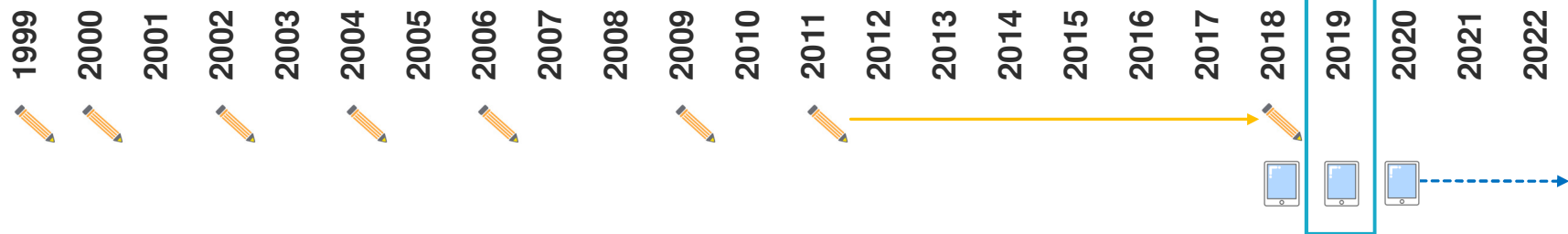
NYTS METHODOLOGY


- 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



NYTS:TIMELINE FOR MODERNIZATION



 Since 1999, the NYTS had been conducted using paper-and-pencil. Since 2011, it has been conducted in collaboration between CDC and FDA

  2018: OSH administered an electronic pilot survey in parallel with the paper-based NYTS: assessed feasibility of a school-based electronic administration

 **2019: Annual NYTS wave first conducted electronically**

NYTS ELECTRONIC ADMINISTRATION METHODS

- 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

NYTS APPLICATION AT-A-GLANCE (2019 NYTS)

- 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!

Enter the Access Code on the Card given to you by the Survey Administrator

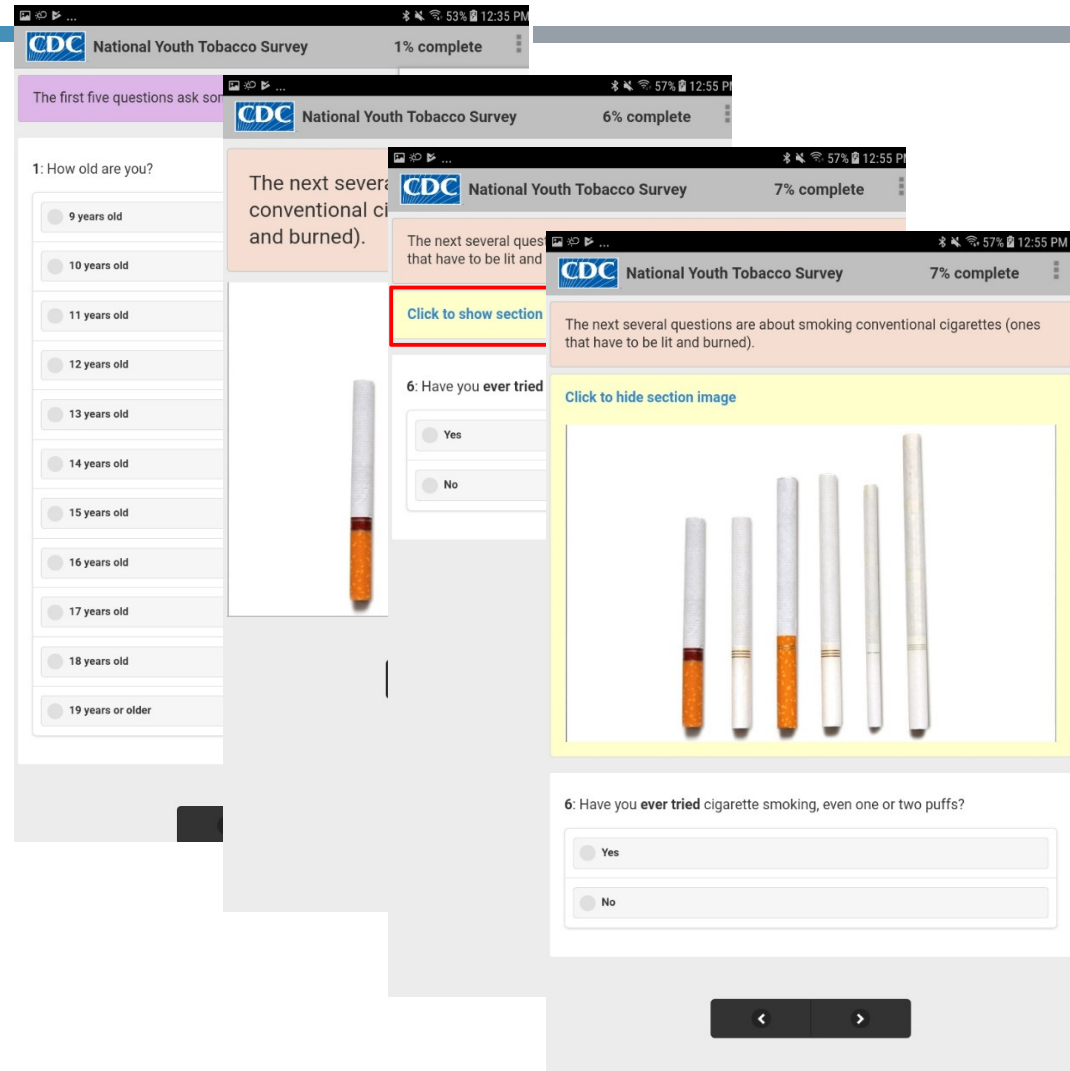
Access code:

Login

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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

The image displays three overlapping screenshots of the CDC National Youth Tobacco Survey app. The top screenshot shows a progress bar at 28% completion. The middle screenshot shows a question (29) with a 'write-in' response field containing the number '3.9'. The bottom screenshot shows a question (74) with a radio button selection interface. A red circle highlights the progress bar in the bottom screenshot, which is at 73% completion.

Top Screenshot: CDC National Youth Tobacco Survey, 28% complete. The next several questions are about... Do not think about snus or dissolving these questions. Click to show section image.

Middle Screenshot: CDC National Youth Tobacco Survey, 28% complete. 29: During the past 30 days, on how many occasions did you use snuff, or dip? Enter a number between 0 and 30. Please Specify. 3.9

Bottom Screenshot: CDC National Youth Tobacco Survey, 73% complete. The next four questions are about different issues related to tobacco. A warning label tells you if a product is harmful to you and can be either a picture or words. 74: During the past 30 days, how often did you see a warning label on a cigar, cigarillo, or little cigar package? I did not see a cigar, cigarillo, or little cigar package during the past 30 days. Never. Rarely. Sometimes. Most of the time. Always.

75: During the past 30 days, how often did you see a warning label on an e-cigarette package? I did not see an e-cigarette package during the past 30 days. Never. Rarely. Sometimes.

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

The screenshot shows the final screen of the National Youth Tobacco Survey. At the top, the CDC logo and 'National Youth Tobacco Survey' are visible, along with a '100% complete' status. Below the header, a message says 'Thank you for your participation!'. A red warning box contains the text: 'Warning: This survey has unanswered questions. The list below shows the pages and the number of questions for which you have not provided your responses. Tap on the page number to go back and answer the questions on that page.' Below this is a table of pages with the number of unanswered questions and a triangle icon for each page.

Page	Number of Unanswered Questions
Page 3	2
Page 4	1
Page 5	1
Page 8	1
Page 9	1
Page 10	1
Page 11	1
Page 12	1
Page 13	1
Page 14	1
Page 15	1

Below the table, a message asks: 'Once you have submitted your survey, you will no longer be able to log in and make changes. Do you want to submit?'. At the bottom, there is a 'Submit Your Survey' button with a checkmark icon.

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Centers for Disease Control and Prevention

MMWR

Morbidity and Mortality Weekly Report

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

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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

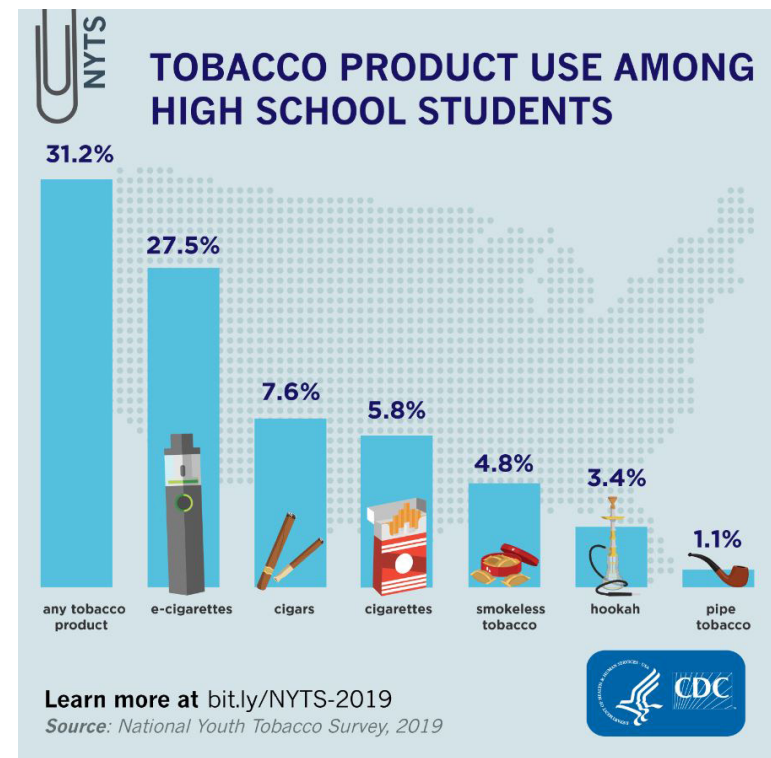
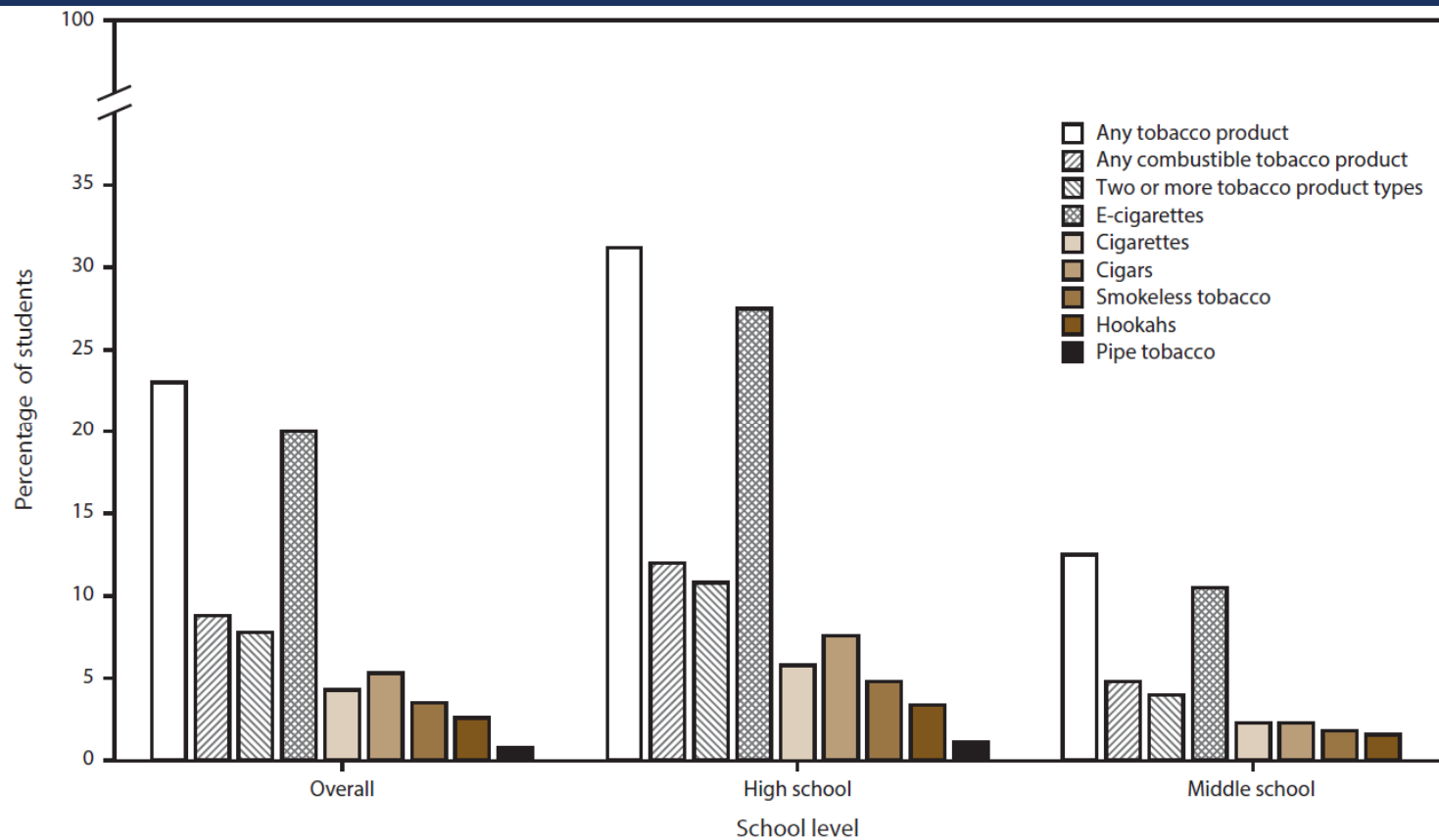


FIGURE I. PERCENTAGE OF MIDDLE AND HIGH SCHOOL STUDENTS WHO CURRENTLY USE ANY TOBACCO PRODUCT, ANY COMBUSTIBLE TOBACCO PRODUCT, TWO OR MORE TOBACCO PRODUCT TYPES, AND SELECTED TOBACCO PRODUCTS, BY SCHOOL LEVEL AND OVERALL



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.

TABLE 4. Flavored tobacco product* use among all middle and high school students and among those who reported current use[†] of specified tobacco products, by school level, sex, and race/ethnicity — National Youth Tobacco Survey, United States, 2019

Characteristic	Tobacco product						
	Any tobacco product [‡]	E-cigarettes	Cigarettes [§]	Cigars	Smokeless tobacco**	Hookahs	Pipe tobacco
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Overall							
Flavored tobacco product use among all students ^{††}	16.0 (14.6–17.4)	13.8 (12.5–15.1)	2.0 (1.6–2.5)	2.2 (1.9–2.6)	1.7 (1.3–2.2)	0.8 (0.6–1.1)	0.3 (0.2–0.4)
Current tobacco product users							
Estimated weighted no. of flavored tobacco product users ^{§§}	4,310,000	3,700,000	530,000	600,000	450,000	210,000	60,000
Flavored tobacco product use among current tobacco product users ^{¶¶}	69.6 (67.0–72.0)	68.8 (66.2–71.4)	46.7 (42.5–51.0)	41.9 (38.0–46.0)	48.0 (42.8–53.2)	31.2 (25.7–37.3)	31.4 (23.1–41.1)
School level							
Middle school	59.6 (56.4–62.8)	59.9 (56.0–63.7)	37.2 (29.2–45.8)	36.1 (28.2–44.9)	42.3 (33.8–51.2)	27.5 (19.2–37.7)	—***
High school	72.8 (69.7–75.6)	71.7 (68.6–74.5)	49.8 (44.8–54.8)	43.2 (39.1–47.4)	49.8 (43.5–56.2)	32.9 (26.3–40.1)	28.0 (19.9–37.7)
Sex							
Female	68.6 (64.9–72.1)	68.3 (64.5–71.9)	49.7 (43.1–56.2)	38.6 (32.9–44.5)	36.4 (26.9–47.0)	34.7 (26.3–44.2)	—
Male	70.7 (68.1–73.1)	69.6 (66.9–72.3)	45.1 (38.9–51.5)	44.2 (39.3–49.1)	50.9 (44.6–57.2)	27.2 (19.4–36.7)	36.2 (27.3–46.1)
Race/Ethnicity							
White, non-Hispanic	76.8 (74.6–78.9)	75.2 (72.6–77.6)	45.8 (40.4–51.4)	44.2 (37.5–51.2)	55.8 (49.7–61.7)	32.1 (23.0–42.9)	31.0 (18.9–46.3)
Black, non-Hispanic	48.0 (41.9–54.1)	43.1 (35.9–50.7)	39.6 (25.6–55.6)	41.2 (33.7–49.2)	—	24.5 (14.0–39.4)	—
Hispanic ^{†††}	63.1 (59.0–67.1)	63.0 (58.5–67.2)	50.8 (42.7–58.8)	36.5 (30.2–43.3)	29.4 (21.1–39.5)	35.6 (25.3–47.5)	46.5 (30.5–63.2)
Other, non-Hispanic	68.1 (61.6–74.0)	68.7 (61.3–75.2)	47.4 (34.8–60.2)	43.7 (33.8–54.1)	40.1 (27.2–54.5)	27.4 (15.8–43.2)	—



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

Reason	Overall		School level		Sex		Race/Ethnicity			
	% (95% CI)	Estimated no. [‡]	Middle school % (95% CI)	High school % (95% CI)	Male % (95% CI)	Female % (95% CI)	White, non-Hispanic % (95% CI)	Black, non-Hispanic % (95% CI)	Hispanic [§] % (95% CI)	Other, non-Hispanic % (95% CI)
I was curious about them	55.3 (53.3–57.3)	5,110,000	57.1 (54.5–59.8)	54.8 (52.5–57.0)	52.1 (49.3–54.9)	58.9 (56.8–61.0)	53.1 (50.5–55.6)	53.7 (48.8–58.5)	61.5 (58.6–64.4)	56.4 (48.7–64.0)
Friend or family member used them	30.8 (29.1–32.6)	2,850,000	36.8 (33.7–40.0)	28.9 (26.8–31.0)	27.1 (24.6–29.7)	34.9 (32.9–37.0)	31.8 (29.6–34.1)	30.8 (26.3–35.7)	28.1 (25.6–30.7)	29.1 (21.3–38.3)
They are available in flavors, such as mint, candy, fruit, or chocolate	22.4 (20.8–24.1)	2,070,000	22.8 (20.5–25.2)	22.3 (20.4–24.3)	20.7 (17.9–23.8)	24.3 (22.4–26.3)	22.8 (21.0–24.8)	21.7 (18.4–25.4)	22.4 (19.7–25.3)	19.1 (14.0–25.5)
I can use them to do tricks	21.2 (19.5–23.0)	1,960,000	22.6 (20.7–24.6)	20.8 (18.5–23.1)	23.3 (20.3–26.5)	19.0 (17.2–20.8)	21.6 (19.8–23.6)	18.9 (15.3–23.2)	21.1 (18.3–24.2)	22.1 (15.7–30.2)
They are less harmful than other forms of tobacco, such as cigarettes	15.7 (14.3–17.2)	1,450,000	15.8 (14.0–17.7)	15.6 (13.9–17.5)	17.5 (15.4–19.7)	13.6 (12.0–15.4)	16.4 (14.7–18.2)	13.0 (9.6–17.2)	15.6 (13.3–18.1)	—**
I can use them unnoticed at home or at school	13.9 (11.4–16.8)	1,280,000	10.5 (8.6–12.7)	14.9 (11.8–18.6)	14.6 (10.3–20.2)	13.1 (11.7–14.6)	14.4 (12.1–17.0)	8.0 (5.3–11.9)	14.8 (11.0–19.6)	—
I was peer pressured into using them	10.7 (9.5–12.1)	990,000	11.1 (8.9–13.7)	10.6 (9.2–12.2)	10.7 (9.0–12.7)	10.8 (9.2–12.6)	11.8 (10.1–13.7)	8.7 (6.5–11.6)	8.8 (6.9–11.0)	—
To try to quit using other tobacco products, such as cigarettes	5.5 (4.5–6.7)	500,000	—	6.4 (5.1–7.9)	7.0 (5.7–8.5)	3.7 (2.7–5.2)	6.6 (5.2–8.4)	—	3.8 (2.9–5.0)	—
They are easier to get than other tobacco products, such as cigarettes	5.4 (4.1–7.0)	500,000	5.0 (3.8–6.5)	5.5 (4.0–7.5)	6.5 (4.5–9.4)	4.1 (3.3–5.1)	5.8 (4.2–8.0)	—	4.6 (3.7–5.6)	—
I've seen people on TV, online, or in movies use them	4.4 (3.8–5.0)	400,000	6.3 (5.1–7.9)	3.7 (3.2–4.4)	4.2 (3.6–5.0)	4.4 (3.6–5.4)	3.9 (3.2–4.7)	—	4.9 (3.7–6.5)	—
They cost less than other tobacco products, such as cigarettes	3.8 (3.1–4.8)	350,000	—	4.2 (3.3–5.3)	5.2 (4.0–6.7)	2.3 (1.7–3.2)	4.6 (3.5–6.1)	—	—	—
I used them for some other reason ^{††}	14.4 (12.4–16.6)	1,330,000	15.4 (13.2–18.0)	14.1 (11.8–16.7)	15.8 (12.8–19.3)	12.8 (11.4–14.3)	15.1 (12.6–18.0)	13.8 (10.8–17.4)	12.9 (10.8–15.4)	—

CURIOSITY AND SUSCEPTIBILITY

TABLE 8. Curiosity* about and susceptibility† to tobacco product use among never users of each specific product, by school level, sex, and race/ethnicity — National Youth Tobacco Survey, United States, 2019

Characteristic	Curiosity		Susceptibility	
	% (95% CI)	Estimated no. [§]	% (95% CI)	Estimated no.
E-cigarettes				
Overall	39.1 (37.7–40.4)	6,820,000	45.0 (43.6–46.5)	7,820,000
Sex				
Male	37.3 (35.8–38.8)	3,330,000	43.4 (41.7–45.1)	3,850,000
Female	41.1 (39.2–43.0)	3,450,000	46.9 (44.9–48.8)	3,930,000
Race/Ethnicity				
White, non-Hispanic	39.8 (38.1–41.5)	3,630,000	45.2 (43.4–46.9)	4,110,000
Black, non-Hispanic	32.0 (28.9–35.1)	810,000	38.3 (34.8–41.8)	960,000
Hispanic [¶]	42.3 (40.5–44.2)	1,790,000	49.1 (46.9–51.3)	2,060,000
Other, non-Hispanic	39.8 (35.4–44.4)	430,000	46.2 (41.7–50.7)	500,000
School level				
Middle school	40.6 (38.9–42.4)	3,840,000	47.0 (45.1–48.9)	4,420,000
High school	37.2 (34.9–39.6)	2,950,000	42.8 (40.6–44.9)	3,370,000
Cigarettes				
Overall	37.0 (35.8–38.2)	8,320,000	45.9 (44.6–47.3)	10,330,000
Sex				
Male	36.8 (35.5–38.2)	4,180,000	46.4 (44.8–47.9)	5,260,000
Female	37.2 (35.4–39.0)	4,090,000	45.5 (43.7–47.4)	5,010,000
Race/Ethnicity				
White, non-Hispanic	37.2 (35.8–38.6)	4,490,000	45.7 (44.2–47.3)	5,520,000
Black, non-Hispanic	29.8 (26.4–33.3)	910,000	38.4 (34.1–42.9)	1,180,000
Hispanic	40.5 (38.4–42.7)	2,240,000	50.5 (48.3–52.8)	2,780,000
Other, non-Hispanic	38.4 (33.9–43.1)	500,000	46.1 (41.4–50.8)	600,000
School level				
Middle school	39.9 (38.5–41.3)	4,310,000	49.5 (47.7–51.3)	5,350,000
High school	34.3 (32.3–36.4)	3,980,000	42.7 (40.6–44.8)	4,950,000
Cigars				
Overall	28.0 (27.0–28.9)	6,440,000	35.9 (34.9–37.0)	8,250,000
Sex				
Male	31.1 (29.8–32.4)	3,590,000	38.9 (37.6–40.3)	4,480,000
Female	24.8 (23.7–25.9)	2,810,000	32.8 (31.6–34.1)	3,710,000
Race/Ethnicity				
White, non-Hispanic	27.0 (25.8–28.4)	3,410,000	34.6 (33.2–36.1)	4,350,000
Black, non-Hispanic	26.0 (23.9–28.3)	740,000	34.1 (31.6–36.8)	980,000
Hispanic	31.6 (29.7–33.5)	1,790,000	40.8 (38.6–43.0)	2,300,000
Other, non-Hispanic	27.4 (24.2–30.9)	360,000	32.9 (29.6–36.4)	440,000
School level				
Middle school	26.5 (25.3–27.7)	2,930,000	34.6 (33.1–36.1)	3,810,000
High school	29.3 (27.9–30.7)	3,480,000	37.2 (35.7–38.7)	4,400,000

- Among never e-cigarette users, **39.1%** were curious about using e-cigarettes
- Among never cigarette smokers, **37.0%** were curious about smoking cigarettes

TOBACCO PRODUCT ADVERTISING OR PROMOTIONS

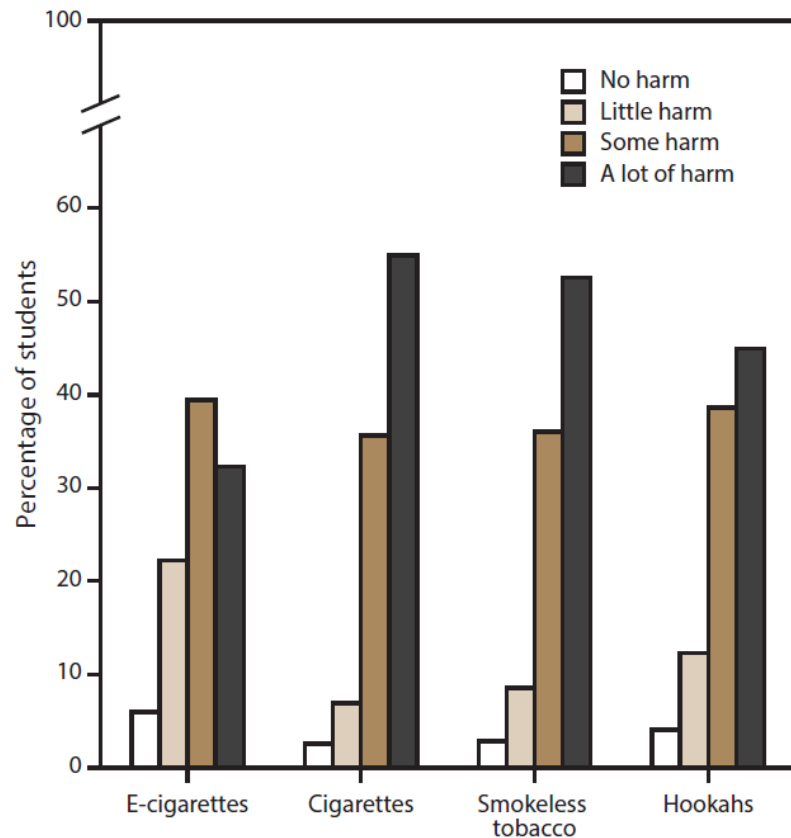
- Nearly **9 in 10** middle and high school students (86.3%; 22.9 million) reported exposure to tobacco product advertisements or promotions from at least one source.



TABLE 7. Percentage of middle and high school students who reported exposure* to sources of tobacco product marketing (advertisements or promotions), by school level, sex, and race/ethnicity — National Youth Tobacco Survey, United States, 2019

Characteristic	Retail stores [†]	Internet [‡]	TV, streaming services, or movies [§]	Newspapers or magazines**	Any source ^{††}
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Exposure to any tobacco product marketing					
Overall	79.4 (78.1–80.7)	59.6 (58.3–60.9)	36.9 (35.0–38.8)	53.5 (51.9–55.1)	86.3 (85.4–87.1)
Estimated no. ^{§§}	20,410,000	15,400,000	9,260,000	7,490,000	22,930,000
Sex					
Male	77.7 (75.9–79.3)	56.3 (54.2–58.5)	34.2 (31.7–36.8)	53.0 (50.5–55.5)	84.4 (83.0–85.7)
Female	81.2 (79.7–82.7)	63.1 (61.6–64.5)	39.6 (37.7–41.6)	53.9 (52.1–55.8)	88.3 (87.3–89.3)
Race/Ethnicity					
White, non-Hispanic	83.1 (81.8–84.3)	59.9 (58.3–61.5)	34.7 (32.4–37.2)	52.9 (50.6–55.1)	88.3 (87.3–89.3)
Black, non-Hispanic	75.4 (73.1–77.6)	61.4 (58.5–64.3)	46.9 (43.4–50.6)	58.3 (54.3–62.2)	86.1 (84.2–87.8)
Hispanic ^{¶¶}	76.2 (74.3–78.1)	59.6 (57.7–61.4)	38.0 (36.0–40.0)	53.8 (51.7–55.8)	84.3 (82.9–85.7)
Other, non-Hispanic	68.0 (65.0–70.9)	55.7 (52.1–59.3)	28.8 (25.7–32.1)	47.9 (43.7–52.1)	78.7 (76.0–81.3)
School level					
Middle school	77.3 (75.4–79.1)	58.2 (56.6–59.7)	35.0 (32.8–37.3)	52.9 (50.7–55.2)	85.2 (83.9–86.4)
High school	81.2 (79.7–82.6)	60.8 (59.2–62.4)	38.4 (36.1–40.7)	53.9 (51.8–56.0)	87.3 (86.2–88.3)
Exposure to e-cigarette marketing***					
Overall	58.4 (56.5–60.2)	44.6 (43.4–45.8)	26.2 (24.9–27.5)	34.8 (33.5–36.1)	69.3 (67.8–70.8)
Estimated no.	15,030,000	11,510,000	6,620,000	5,070,000	18,260,000
Sex					
Male	56.6 (54.4–58.7)	41.2 (39.5–43.0)	23.9 (22.2–25.7)	33.3 (31.2–35.5)	67.3 (65.4–69.2)
Female	60.3 (58.1–62.4)	48.1 (46.4–49.8)	28.5 (27.0–30.2)	36.4 (34.7–38.0)	71.5 (69.6–73.2)
Race/Ethnicity					
White, non-Hispanic	62.9 (60.7–65.0)	46.2 (44.6–47.9)	26.0 (24.2–27.8)	34.8 (33.0–36.7)	72.6 (70.8–74.2)
Black, non-Hispanic	52.2 (49.5–55.0)	42.6 (40.0–45.2)	30.0 (27.4–32.7)	36.0 (32.7–39.4)	66.5 (64.3–68.6)
Hispanic	54.0 (51.9–56.2)	43.4 (41.8–45.1)	26.3 (24.6–28.1)	35.5 (33.7–37.3)	66.2 (64.1–68.2)
Other, non-Hispanic	48.8 (44.7–52.9)	41.8 (38.7–45.1)	19.4 (17.1–21.9)	31.9 (28.3–35.8)	62.4 (58.9–65.7)
School level					
Middle school	53.8 (51.4–56.2)	41.5 (40.0–43.1)	24.3 (22.6–26.0)	33.4 (31.4–35.4)	65.7 (63.8–67.5)
High school	62.1 (60.0–64.2)	47.1 (45.6–48.6)	27.7 (26.0–29.4)	35.8 (34.0–37.7)	72.3 (70.6–74.0)
Exposure to cigarette or other tobacco product marketing^{†††}					
Overall	72.8 (71.3–74.3)	43.1 (41.4–44.7)	26.8 (25.0–28.6)	36.7 (34.9–38.6)	81.7 (80.7–82.7)
Estimated no.	18,670,000	11,180,000	6,770,000	5,410,000	21,630,000
Sex					
Male	70.8 (68.8–72.8)	40.6 (38.2–43.1)	24.8 (22.6–27.1)	36.9 (34.1–39.8)	79.5 (78.0–81.0)
Female	75.0 (73.4–76.5)	45.6 (44.0–47.3)	28.8 (27.0–30.6)	36.4 (34.6–38.3)	84.1 (82.9–85.2)
Race/Ethnicity					
White, non-Hispanic	77.1 (75.6–78.5)	41.7 (39.6–43.9)	24.3 (22.2–26.5)	36.0 (33.7–38.4)	83.7 (82.5–84.9)
Black, non-Hispanic	67.9 (65.2–70.4)	48.7 (46.2–51.2)	37.0 (34.0–40.2)	41.7 (37.1–46.4)	82.1 (80.1–83.9)
Hispanic	69.2 (66.8–71.5)	44.2 (42.4–46.0)	27.7 (25.8–29.7)	36.9 (35.1–38.7)	79.7 (78.1–81.3)
Other, non-Hispanic	61.1 (57.7–64.5)	38.8 (35.3–42.3)	21.2 (18.6–24.1)	30.3 (26.7–34.2)	72.9 (70.2–75.5)
School level					
Middle school	71.7 (69.7–73.5)	44.5 (42.8–46.2)	25.9 (24.0–28.0)	36.8 (34.8–38.8)	81.5 (80.1–82.8)
High school	73.9 (72.1–75.6)	42.0 (39.8–44.2)	27.5 (25.4–29.7)	36.7 (34.4–39.1)	82.0 (80.7–83.3)

HARM PERCEPTIONS



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

Characteristic	Urges to use tobacco products				Quitting behaviors			
	Past 30-day craving [†]		Within 30 minutes of waking [§]		Thinking about quitting [†]		Past-year quit attempt ^{**}	
	% (95% CI)	Estimated no. ^{††}	% (95% CI)	Estimated no.	% (95% CI)	Estimated no.	% (95% CI)	Estimated no.
Overall	24.7 (22.0–27.6)	1,510,000	13.7 (11.7–16.0)	830,000	57.8 (55.5–60.0)	3,330,000	57.5 (55.4–59.6)	3,300,000
Sex								
Male	23.8 (19.9–28.1)	760,000	15.7 (12.7–19.4)	500,000	56.8 (54.2–59.2)	1,740,000	57.0 (54.3–59.6)	1,730,000
Female	25.8 (22.9–28.9)	740,000	11.5 (9.5–13.9)	330,000	58.9 (55.6–62.1)	1,580,000	58.0 (55.0–61.0)	1,560,000
Race/Ethnicity								
White, non-Hispanic	28.7 (25.5–32.1)	1,070,000	16.5 (13.9–19.5)	610,000	56.2 (54.2–58.9)	1,990,000	55.3 (52.4–58.2)	1,950,000
Black, non-Hispanic	15.8 (12.0–20.6)	100,000	— ^{§§}	—	59.5 (53.8–65.0)	370,000	59.1 (53.3–64.6)	360,000
Hispanic ^{¶¶}	18.3 (15.1–21.9)	250,000	9.2 (7.2–11.6)	120,000	61.6 (58.0–65.0)	810,000	62.9 (59.0–66.7)	820,000
Other, non-Hispanic	—	—	—	—	56.7 (45.8–67.1)	120,000	56.9 (48.6–64.9)	120,000
High school	25.8 (22.6–29.4)	1,200,000	15.6 (13.2–18.4)	720,000	57.7 (55.3–60.0)	2,540,000	55.7 (53.2–58.2)	2,440,000
Sex								
Male	25.5 (21.1–30.5)	630,000	18.0 (14.4–22.2)	440,000	57.2 (54.3–60.0)	1,350,000	56.0 (53.1–58.9)	1,310,000
Female	26.3 (22.9–30.0)	560,000	13.0 (10.7–15.8)	280,000	58.2 (54.8–61.5)	1,180,000	55.3 (51.7–58.8)	1,120,000
Race/Ethnicity								
White, non-Hispanic	29.9 (26.2–33.8)	900,000	18.7 (15.8–22.1)	560,000	56.2 (53.1–59.3)	1,620,000	53.8 (50.4–57.1)	1,540,000
Black, non-Hispanic	16.1 (11.7–21.8)	70,000	—	—	61.2 (56.1–66.2)	280,000	58.7 (52.4–64.6)	260,000
Hispanic	17.4 (14.0–21.4)	160,000	9.4 (6.8–12.9)	80,000	61.6 (57.2–65.7)	530,000	60.3 (55.2–65.1)	520,000
Other, non-Hispanic	—	—	—	—	52.7 (41.6–63.5)	80,000	56.8 (48.3–64.9)	90,000
Middle school	21.4 (18.1–25.1)	310,000	7.3 (5.8–9.2)	100,000	57.9 (52.3–63.4)	770,000	63.3 (59.3–67.1)	840,000
Sex								
Male	18.2 (14.7–22.4)	130,000	—	—	54.9 (48.3–61.5)	370,000	59.6 (53.6–65.4)	400,000
Female	24.6 (19.4–30.8)	170,000	—	—	61.0 (54.3–67.3)	390,000	66.7 (61.4–71.5)	430,000
Race/Ethnicity								
White, non-Hispanic	23.7 (18.5–29.9)	160,000	—	—	55.8 (49.3–62.1)	360,000	62.4 (54.7–69.5)	410,000
Black, non-Hispanic	—	—	—	—	54.6 (41.4–67.2)	90,000	60.3 (51.5–68.5)	90,000
Hispanic	20.3 (15.7–25.8)	90,000	—	—	61.7 (54.9–68.0)	260,000	67.6 (61.7–72.9)	280,000
Other, non-Hispanic	—	—	—	—	—	—	—	—

QUITTING BEHAVIORS

- 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.

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

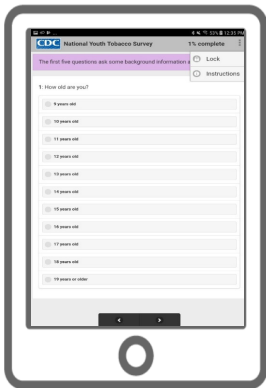
Characteristic	Urges to use tobacco products				Quitting behaviors			
	Past 30-day craving [†]		Within 30 minutes of waking [§]		Thinking about quitting [¶]		Past-year quit attempt ^{**}	
	% (95% CI)	Estimated no. ^{††}	% (95% CI)	Estimated no.	% (95% CI)	Estimated no.	% (95% CI)	Estimated no.
Overall	24.7 (22.0–27.6)	1,510,000	13.7 (11.7–16.0)	830,000	57.8 (55.5–60.0)	3,330,000	57.5 (55.4–59.6)	3,300,000
Sex								
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Female	25.8 (22.9–28.9)	740,000	11.5 (9.5–13.9)	330,000	58.9 (55.6–62.1)	1,580,000	58.0 (55.0–61.0)	1,560,000
Race/Ethnicity								
White, non-Hispanic	28.7 (25.5–32.1)	1,070,000	16.5 (13.9–19.5)	610,000	56.2 (54.2–58.9)	1,990,000	55.3 (52.4–58.2)	1,950,000
Black, non-Hispanic	15.8 (12.0–20.6)	100,000	— ^{§§}	—	59.5 (53.8–65.0)	370,000	59.1 (53.3–64.6)	360,000
Hispanic ^{¶¶}	18.3 (15.1–21.9)	250,000	9.2 (7.2–11.6)	120,000	61.6 (58.0–65.0)	810,000	62.9 (59.0–66.7)	820,000
Other, non-Hispanic	—	—	—	—	56.7 (45.8–67.1)	120,000	56.9 (48.6–64.9)	120,000
High school	25.8 (22.6–29.4)	1,200,000	15.6 (13.2–18.4)	720,000	57.7 (55.3–60.0)	2,540,000	55.7 (53.2–58.2)	2,440,000
Sex								
Male	25.5 (21.1–30.5)	630,000	18.0 (14.4–22.2)	440,000	57.2 (54.3–60.0)	1,350,000	56.0 (53.1–58.9)	1,310,000
Female	26.3 (22.9–30.0)	560,000	13.0 (10.7–15.8)	280,000	58.2 (54.8–61.5)	1,180,000	55.3 (51.7–58.8)	1,120,000
Race/Ethnicity								
White, non-Hispanic	29.9 (26.2–33.8)	900,000	18.7 (15.8–22.1)	560,000	56.2 (53.1–59.3)	1,620,000	53.8 (50.4–57.1)	1,540,000
Black, non-Hispanic	16.1 (11.7–21.8)	70,000	—	—	61.2 (56.1–66.2)	280,000	58.7 (52.4–64.6)	260,000
Hispanic	17.4 (14.0–21.4)	160,000	9.4 (6.8–12.9)	80,000	61.6 (57.2–65.7)	530,000	60.3 (55.2–65.1)	520,000
Other, non-Hispanic	—	—	—	—	52.7 (41.6–63.5)	80,000	56.8 (48.3–64.9)	90,000
Middle school	21.4 (18.1–25.1)	310,000	7.3 (5.8–9.2)	100,000	57.9 (52.3–63.4)	770,000	63.3 (59.3–67.1)	840,000
Sex								
Male	18.2 (14.7–22.4)	130,000	—	—	54.9 (48.3–61.5)	370,000	59.6 (53.6–65.4)	400,000
Female	24.6 (19.4–30.8)	170,000	—	—	61.0 (54.3–67.3)	390,000	66.7 (61.4–71.5)	430,000
Race/Ethnicity								
White, non-Hispanic	23.7 (18.5–29.9)	160,000	—	—	55.8 (49.3–62.1)	360,000	62.4 (54.7–69.5)	410,000
Black, non-Hispanic	—	—	—	—	54.6 (41.4–67.2)	90,000	60.3 (51.5–68.5)	90,000
Hispanic	20.3 (15.7–25.8)	90,000	—	—	61.7 (54.9–68.0)	260,000	67.6 (61.7–72.9)	280,000
Other, non-Hispanic	—	—	—	—	—	—	—	—

OUTLINE

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

MAJOR METHODOLOGICAL CHANGES IN 2019

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



*The next several questions are about electronic cigarettes or e-cigarettes. Some brand examples include **JUUL, Vuse, MarkTen, and blu...***

- 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

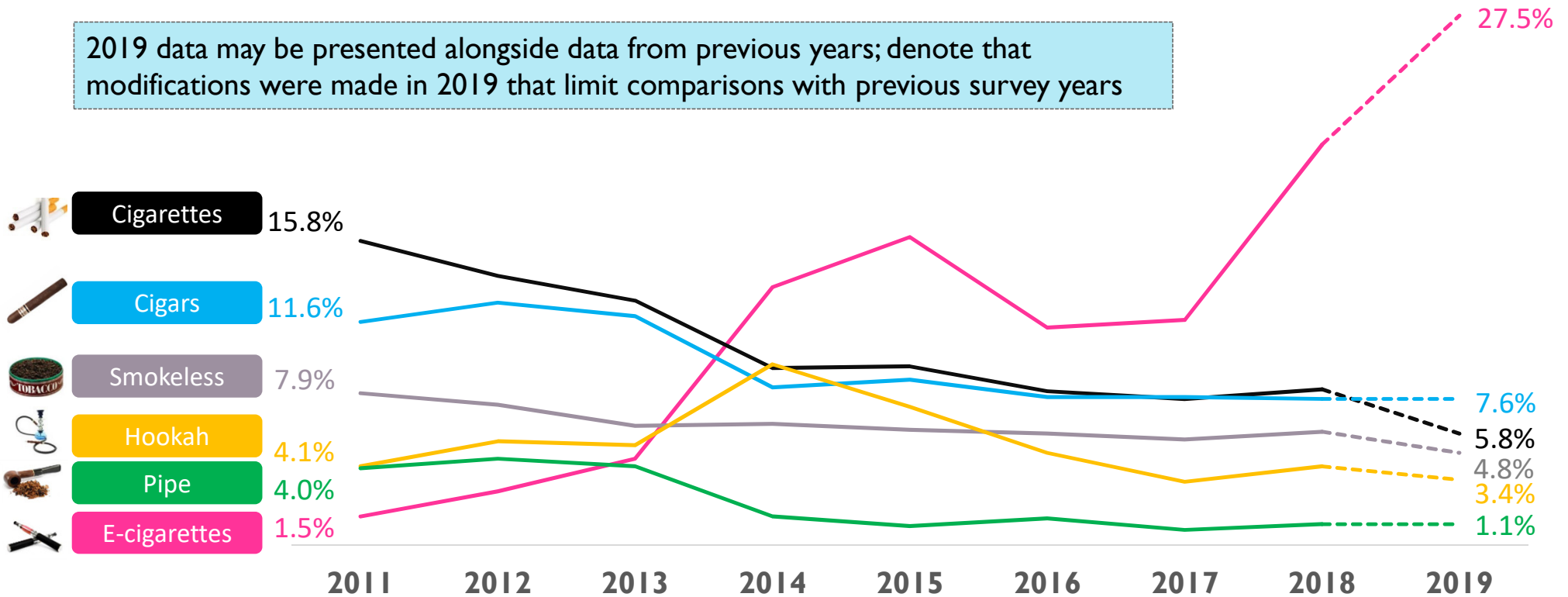
ANALYTIC CONSIDERATIONS FOR NYTS 2019



- 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.

[Download NYTS 2011-2019 and earlier data](#)

Survey Data	
2019	+
2018	+
2017	+
2016	
2015	
2014	
2013	
2012	
2011	
2009	
2006	
2004	
2002	
2000	
1999	

Survey Data	
2019	-
<ul style="list-style-type: none"> • 2019 NYTS Dataset, Format Library, and Codebook in SAS* [Zip File-5.5 MB] • 2019 NYTS Dataset and Codebook in Microsoft Access* [Zip File-8 MB] • 2019 NYTS Dataset and Codebook in Microsoft Excel* [Zip File-25 MB] • 2019 NYTS Questionnaire [Zip File - 749 KB] • 2019 NYTS Methodology Report [Zip File - 690 KB] 	
2018	+
2017	+
2016	+
2015	+
2014	+
2013	+
2012	+
2011	+
2009	+
2006	+

Data are available in SAS, Microsoft Access, and Microsoft Excel. For more information, 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.

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

