

2016 New Jersey Youth Tobacco Survey

A Statewide Report

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Highlights

The 2016 New Jersey Youth Tobacco Survey assessed ever (i.e., any use, even 1 time) and current (i.e., on 1 or more of the previous 30 days) use of cigarettes, cigars, smokeless tobacco (SLT), bidis, snus, hookah, and electronic cigarettes (e-cigarettes), as well as exposure to secondhand smoke and experience with tobacco prevention and cessation.

Among New Jersey public high school students in the 2016-17 school year:

- 38.7% (95% CI: 34.5-43.0) had ever sampled at least one of the following tobacco products:
- The most common product ever tried was e-cigarettes (21.0%), followed by cigarettes (17.4%), cigars (17.2%), and hookah (15.9%).
- 16.8% (14.0-19.7) were currently using at least one tobacco product.
- 8.5% (about half of all current tobacco users) were currently using 2 or more tobacco products.
- The most common currently used products were e-cigarettes (9.6%), hookah (7.0%), cigars (6.8%), and cigarettes (4.7%).
- 4.8% (about three-quarters of current cigar smokers) were currently smoking a flavored cigar product.
- 2.7% (about three-quarters of SLT users) were currently using a flavored SLT product.
- 37% had experienced exposure to secondhand smoke in public spaces.
- 19.6% had experienced exposure to secondhand smoke at school.
- 42.3% had been taught in school why they should not use tobacco.
- 42.9% of those who had seen a healthcare professional in the previous year were asked about tobacco use.
- 35.5% of those who had seen a healthcare professional in the previous year were advised against tobacco use.
- 40.4% of cigarette smokers expressed a desire to quit, of whom 53.6% had attempted to quit at least once in the previous year.
- 48.8% of those who had intended to quit used a cessation medication or behavioral support.

Background and Methodology

Since 1999, New Jersey has conducted biennial surveillance of tobacco use among New Jersey youth. The New Jersey Youth Tobacco Survey (NJYTS) is an adaptation of the National Youth Tobacco Survey (NYTS) developed by the Centers for Disease Control and Prevention (CDC), consisting of both CDC-recommended “core” questions and “state-added questions” specific to New Jersey. The 2016 NJYTS included questions about ever and past-30-day use of cigarettes, cigars, smokeless tobacco (SLT), pipe, hookah, snus, bidis, and electronic cigarettes (e-cigarettes), as well as questions that assess susceptibility to tobacco use, exposure to secondhand smoke, and access to tobacco.

The NJYTS employed a 2-stage cluster design to obtain a representative sample of students in grades 9-12. The first-stage sampling frame consisted of all public schools in New Jersey enrolling students in grades 9, 10, 11, or 12 and schools were selected with a probability proportional to size (PPS), without replacement, for a total of 50 schools. Subsequently, a simple random sample of 3 to 4 mandatory classes was performed within each participating school, and all students in selected classes were selected for participation. Thirty-five (70.0%) of selected schools agreed to participate, and 3,604 of 4,061 (88.8%) selected students consented and completed usable questionnaires. An overall participation rate, calculated by multiplying the school participation rate by the student participation rate, of 62.1% was achieved. The data were weighted to adjust for non-response and the varying probabilities of selection, thus providing results representative of New Jersey's 9th-12th grade student population.

Prevalence estimates and 95% confidence intervals were computed using SAS 9.4 (SAS Institute, Cary, NC) survey procedures, which account for the complex sample design of the survey.

Results

Results from the 2016 New Jersey Youth Tobacco Survey are presented below.

Ever-Use of Tobacco Products

The 2016 NJYTS assessed ever-use of cigarettes, cigars, smokeless tobacco (SLT), bidis, snus, hookah, and electronic cigarettes (e-cigarettes), defined as any use (even just one time) of a respective product. Overall, 38.7% (95% CI: 34.5-43.0) of high school students had ever sampled at least one of these tobacco products. Ever-use of any tobacco product was most prevalent among Hispanic students (47.8% [41.9-53.7]), followed by non-Hispanic black (41.4% [34.9-48.0]) and non-Hispanic white (37.3% [32.6-42.0]) students. Prevalence increased consistently with grade level from 29.7% (24.7-34.6) among 9th graders to 51.9% (45.4-58.3) among 12th graders and was slightly more prevalent among males (40.0% [36.7-43.6]) than females (37.5% [31.5-43.5]).

Table 1. Ever-Use of Tobacco Products, NJYTS 2016

	Cigarette	Cigar	SLT	Bidis	Hookah	Snus	E-cig
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Gender							
Male	18.2 (15.3-21.2)	21.1 (18.1-24.1)	10.7 (8.5-12.9)	6.9 (5.2-8.7)	15.1 (12.5-17.7)	6.5 (4.8-8.3)	22.5 (20.0-24.9)
Female	16.5 (12.4-20.6)	13.2 (10.6-15.7)	3.4 (2.4-4.4)	4.1 (3.0-5.3)	16.8 (12.1-21.6)	2.5 (1.6-3.4)	19.5 (16.1-22.9)
Race/Ethnicity							
White	16.6 (13.4-19.9)	18.3 (14.5-22.2)	7.3 (5.1-9.5)	4.2 (3.2-5.3)	13.5 (10.6-16.4)	3.7 (2.3-5.1)	23.8 (20.8-26.8)
Black	17.6 (13.4-21.8)	15.4 (9.8-21.0)	6.8 (4.6-9.1)	5.7 (3.6-7.7)	18.2 (12.9-23.5)	4.1 (1.6-6.6)	16.1 (12.3-19.8)
Hispanic	23.7 (19.5-27.8)	21.0 (17.6-24.3)	8.3 (6.3-10.3)	8.7 (6.0-11.5)	23.1 (18.0-28.2)	6.8 (4.9-8.8)	23.7 (20.0-26.8)
Other	8.4 (2.6-14.1)	6.4 (2.8-10.0)	3.3 (1.2-5.5)	4.9 (2.7-7.1)	9.6 (5.3-13.9)	4.3 (2.0-6.5)	9.5 (4.9-14.2)
Grade							
9	10.9 (8.0-13.7)	10.0 (7.9-12.0)	5.4 (3.6-7.1)	4.4 (2.5-6.3)	11.1 (7.8-14.5)	4.1 (2.6-5.5)	15.8 (11.9-19.6)
10	11.7 (8.0-15.4)	13.5 (9.3-17.7)	4.0 (1.1-6.9)	5.6 (3.5-7.7)	13.2 (8.1-18.2)	3.6 (1.4-5.7)	16.6 (12.5-20.7)
11	21.3 (16.3-26.2)	20.2 (16.9-23.4)	8.7 (6.4-11.0)	5.1 (3.2-7.0)	16.4 (12.7-20.1)	4.5 (2.4-6.7)	23.1 (18.7-27.6)
12	26.5 (21.1-31.9)	26.1 (20.4-31.8)	10.4 (6.8-13.9)	7.0 (5.5-8.5)	23.7 (18.1-29.3)	5.6 (3.3-7.8)	28.9 (23.5-34.2)
Overall	17.4 (14.4-20.3)	17.2 (14.8-19.6)	7.1 (5.7-8.4)	5.5 (4.3-6.7)	15.9 (12.6-19.2)	4.5 (3.4-5.7)	21.0 (18.6-23.3)

SLT: Smokeless tobacco (Snuff or Chew); E-cig: Electronic cigarette; CI: 95% Confidence Interval

Ever-use prevalence estimates and 95% confidence intervals (CI) are presented overall and by gender, race/ethnicity, and grade level for each product type in **Table 1**. The most common tobacco products ever tried by New Jersey high school students were e-cigarettes (21.0%), followed by cigarettes (17.4%), cigars (17.2%), and hookah (15.9%). Notably more males than females had tried cigars (21.1% vs 13.2%), SLT (10.7% vs 3.4%), and snus (6.5% vs 2.5%). By race/ethnicity, ever-use of a product tended to be most prevalent among Hispanics, particularly with respect to bidis (8.7%) and hookah (23.1%), with the notable exception being e-cigarettes, which were equally more prevalent among Hispanics (23.7%) and non-Hispanic whites (23.8%) than non-Hispanic blacks (16.1%). In general, ever-use prevalence increased with grade level for all products, with several notable differences observed when comparing 12th to 9th graders including cigarettes (10.9% vs. 26.5%), cigars (10.0% vs 26.1%), hookah (11.1% vs 23.7%), and e-cigarettes (15.8% vs 28.9%).

Current Use of Tobacco Products

The 2016 NJYTS assessed current use of cigarettes, cigars, smokeless tobacco (SLT), bidis, snus, hookah, and electronic cigarettes (e-cigarettes), defined as use on 1 or more of the 30 days preceding the survey. Overall, 16.8% (14.0-19.7) of New Jersey high school students had used at least one tobacco product within 30 days prior to survey. Current tobacco use was somewhat more prevalent among males (19.5% [16.8-22.1]) than females (14.1% [10.5-17.6]) and among Hispanics (20.9% [17.3-24.4]) than non-Hispanic whites (16.9% [14.1-19.6]) and non-Hispanic blacks (15.4% [8.9-21.9]), and increased monotonically with grade level from 11.3% (8.3-14.2) among 9th graders to 26.2% (20.6-31.8) among 12th graders.

Table 2. Current (Past 30-days) Use of Tobacco Products, NJYTS 2016

	Cigarette	Cigar	SLT	Bidis	Hookah	Snus	E-cig
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Gender							
Male	5.8(4.1-7.6)	9.8(7.4-12.2)	5.1(3.5-6.6)	4.8(2.5-7.2)	7.1(5.0-9.2)	5.1(2.9-7.4)	11.5(9.6-13.4)
Female	3.4(2.2-4.6)	3.7(2.5-5.0)	0.8(0.4-1.2)	1.9(1.1-2.7)	6.8(4.1-9.5)	1.5(0.8-2.2)	7.5(5.2-9.8)
Race/Ethnicity							
White	5.3(3.7-6.8)	6.2(4.2-8.3)	2.5(1.3-3.7)	1.7(0.8-2.7)	4.6(3.4-5.8)	2.1(1.1-3.1)	10.7(8.9-12.5)
Black	2.4(0.5-4.2)	8.2(3.4-13.1)	3.1(1.0-5.3)	4.9(1.6-8.2)	9.1(3.8-14.3)	5.3(1.9-8.8)	7.3(3.5-11.2)
Hispanic	5.3(3.8-6.8)	7.8(6.1-9.6)	3.7(2.1-5.3)	5.4(3.7-7.1)	11.6(7.9-15.4)	4.6(3.1-6.1)	9.6(7.3-11.9)
Other	3.4(0.4-6.5)	5.3(1.3-9.3)	2.8(1.0-4.6)	5.2(1.0-9.5)	5.5(2.1-8.8)	4.3(0.7-7.9)	6.8(2.1-11.6)
Grade							
9	2.7(1.1-4.4)	4.1(1.8-6.4)	2.0(0.8-3.3)	3.5(1.7-5.2)	5.5(3.2-7.8)	3.5(1.6-5.3)	7.9(5.3-10.6)
10	2.4(0.6-4.1)	5.1(2.3-7.8)	1.8(0.3-3.4)	2.7(0.8-4.6)	6.0(2.7-9.2)	2.3(0.4-4.2)	7.2(4.5-9.8)
11	5.1(3.5-6.8)	5.4(3.6-7.2)	2.6(1.3-3.8)	2.0(0.7-3.3)	5.7(3.9-7.4)	2.4(1.1-3.7)	8.3(5.6-11.0)
12	8.6(5.7-11.4)	12.7(8.3-17.1)	5.2(3.0-7.4)	5.2(1.9-8.4)	10.9(6.2-15.7)	4.9(2.1-7.7)	15.0(10.8-19.2)
Overall	4.7(3.7-5.6)	6.8(5.4-8.2)	2.9(2.1-3.7)	3.4(2.0-4.8)	7.0(4.7-9.3)	3.3(1.9-4.7)	9.6(7.8-11.3)

SLT: Smokeless tobacco (Snuff or Chew); E-cig: Electronic cigarette; CI: 95% Confidence Interval

Current use prevalence estimates and 95% CIs for each product are presented overall and by gender, race/ethnicity, and grade level in **Table 2**. E-cigarettes (9.6%), hookah (7.0%), and cigars (6.8%) were the most common currently used products in 2016. Each tobacco product was currently used by males more than females, with notable differences observed for cigars (9.8% vs 3.7%), SLT (5.1% vs. 0.8%), and snus (5.1% vs 1.5%). There were minimal racial/ethnic differences in current use of cigars, SLT, and e-cigarettes; however, more Hispanics and non-Hispanic blacks than non-Hispanic whites currently used hookah (11.6% and 9.1% vs 4.6%), bidis (5.4% and 4.9% vs. 1.7%), and snus (4.6% and 5.3% vs 2.1%), while non-Hispanic blacks, relative to non-Hispanic whites and Hispanics, had the lowest cigarette (2.4% vs 5.3% and 5.3%) and e-cigarette (7.3% vs 10.7% and 9.6%) prevalence. For all tobacco products, current use prevalence tended to increase with grade, and notably more 12th grade students, compared to 9th grade students, currently used cigarettes (8.6% vs 2.7%), cigars (12.7% vs 4.1%), hookah (10.9% vs 5.5%), and e-cigarettes (15.0% vs 7.9%) use.

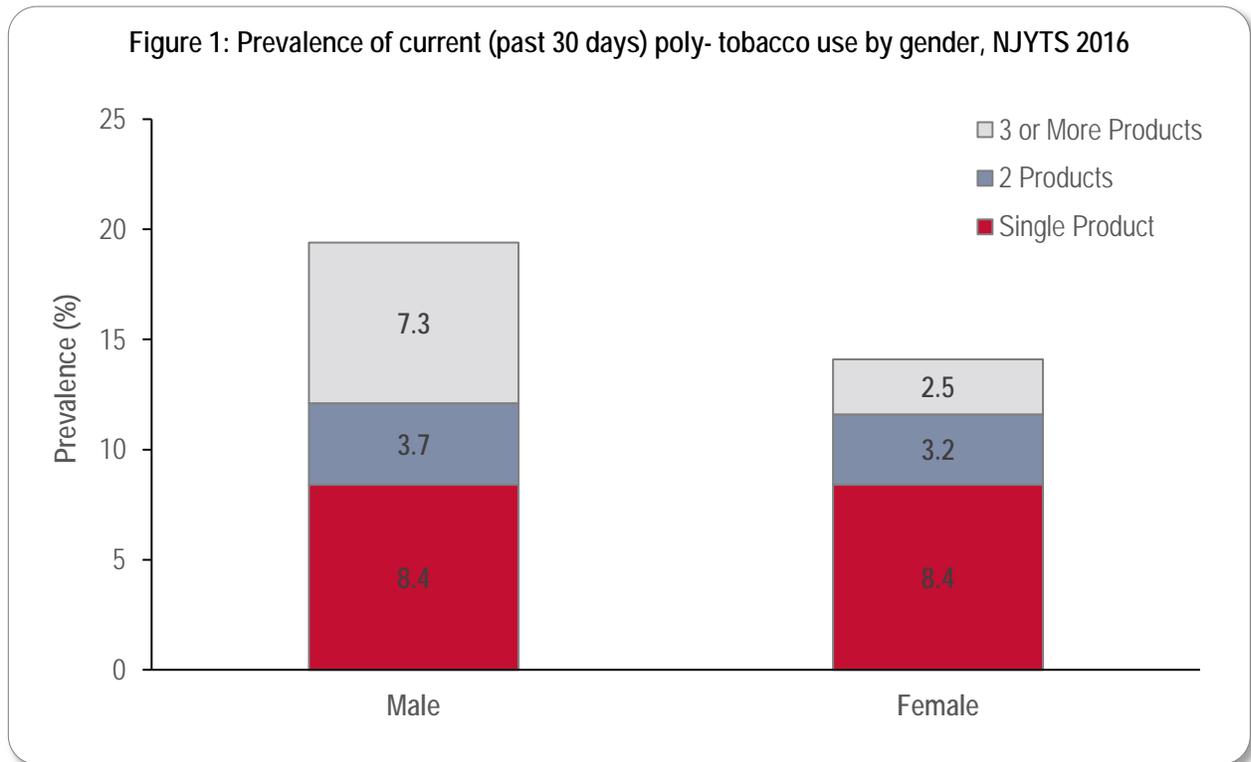
Frequent Use

Frequent use, defined as use on at least 20 of the previous 30 days, of any particular product was generally uncommon, with overall prevalence estimates ranging from 0.6% (0.2-1.0) for frequent SLT use to 1.8% (1.0-2.5) for frequent e-cigarette use. However, a disproportionate percentage of current SLT and hookah users were frequently engaging in the behavior, such that about 1 in 5 (20.7% [8.9-32.5]) SLT users were frequent users, compared to about 1 in 10 hookah users (11.8% [7.4-16.2]).

Poly-Tobacco Use

About 1 in 5 (20.8% [16.9-24.7]) current tobacco users had used 2 different products in the 30 days preceding the survey, and an additional 29.1% (22.8-36.0) had used 3 or more different products. Although the overall prevalence of single-product use did not differ by sex, current use of multiple products was notably more common among males than females (**Figure 1**). Furthermore, a substantially higher proportion of male than female tobacco users were using 3 or more product types (37.8% [27.8-47.8] vs. 17.7% [12.5-22.8]). Poly-tobacco use was most prevalent among Hispanic students (10.1% [7.8-12.4]), followed by non-Hispanic white (9.0% [7.5-10.4]) and non-Hispanic black (8.2% [3.7-12.8]) students, and increased with grade level from 6.4% (3.5-9.3) among 9th graders to 13.8% (9.6-18.1) among 12th graders.

Notably, only 6.1% (3.1-9.0) of current tobacco users were exclusive cigarette smokers, whereas nearly 3-quarters (73.1% [69.6-76.6]) were instead using only one or more non-cigarette tobacco products. This is consistent with the previously noted observation that cigarettes are no longer among the most popular tobacco products among NJ high school students.



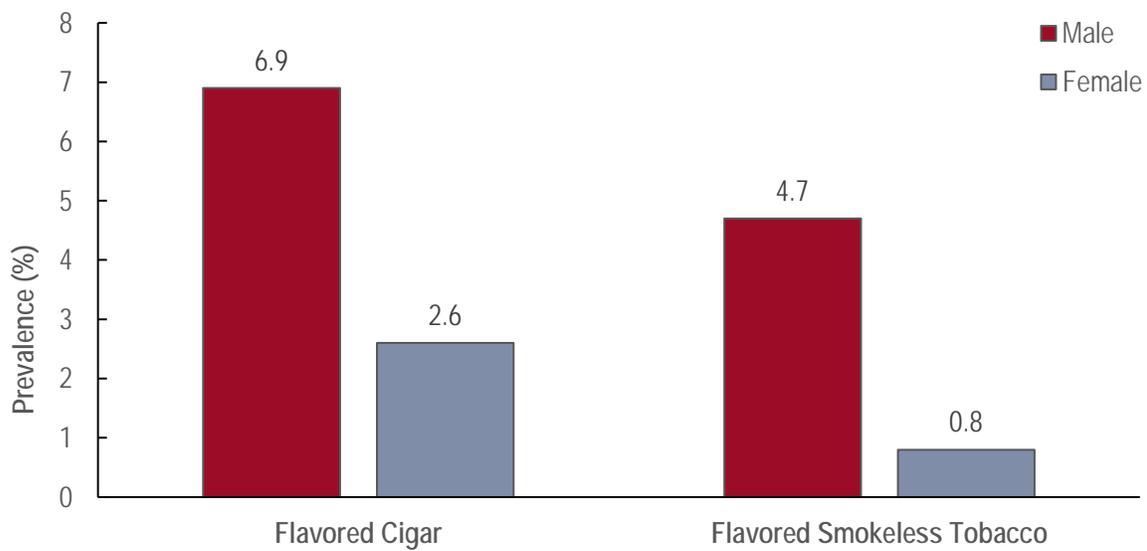
Flavored Tobacco Use

An estimated 4.8% (3.5-6.1) of New Jersey high school students – or about three-quarters (74.7% [66.1-83.3]) of current cigar smokers – were smoking flavored (i.e., menthol/mint, fruit, alcohol/wine, or sweet candy-like flavor) cigars in 2016. Flavored cigar smoking was more prevalent among males than females (6.9% [4.7-9.0] vs 2.6% [1.7-3.6]) (**Figure 2**). The highest prevalence of flavored cigar use was observed for non-Hispanic blacks (6.1% [2.5-9.6]), followed by Hispanics (5.7% [3.9-7.4]),

and non-Hispanic whites (4.2% [2.8-6.2]). Among those who smoked flavored cigars in the past 30 days, fruit was the most popular flavor (33.1% [27.8-38.5]).

Use of flavored (i.e., mint/wintergreen, fruit, other flavor) SLT products in the previous 30 days was also assessed, and 2.7% (1.8-3.6) of all students – or 76.8% (64.3-89.3) of current SLT users – were currently using flavored SLT. As with flavored cigar use, males had higher prevalence of flavored SLT use compared to females (4.7% [3.0-6.3] vs 0.8% [0.3-1.2]) (**Figure 2**). Prevalence of flavored SLT use was greatest among non-Hispanic black students (3.5% [0.9-6.1]), followed by Hispanic (2.9% [1.7-4.0]) and non-Hispanic white (2.4% [1.3-3.5]) students. There was minimal variation in prevalence of flavored SLT use by grade. Among current flavored SLT users, Wintergreen/Mint (48.9% [32.8-64.9]) was the most common flavor.

Figure 2: Current (past 30 day) use of flavored cigars and smokeless tobacco by gender, NJYTS 2016



Strategies to Reduce Youth Exposure to Tobacco

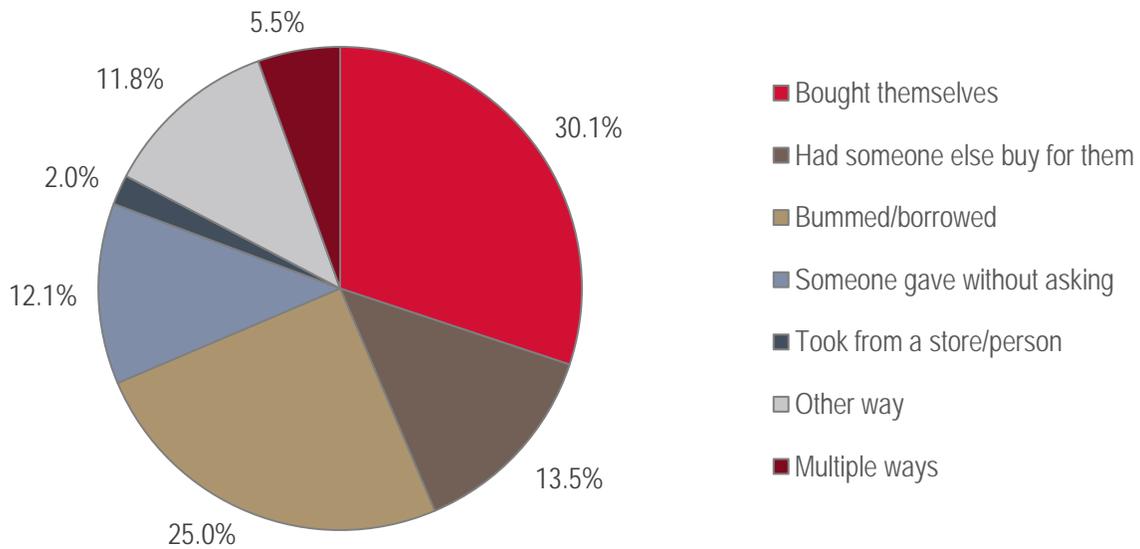
Approaches to reducing youth tobacco use include strategies and projects that endeavor to change social standards, accessibility, and/or tobacco regulations. This section focuses on youth access to tobacco, exposure to environmental tobacco smoke (secondhand smoke), familiarity with empowerment activities, and awareness and use of smoking cessation aids among New Jersey youth.

Access to Cigarettes

As of November 1st, 2017, New Jersey became the third state to raise the purchasing age for tobacco products to 21. However, at the time of the 2016 NJYTS, the New Jersey tobacco age-of-sale was 19 years. Nonetheless, 30.1% (19.6-40.6) of high school smokers were able to purchase cigarettes in the month preceding the survey. Current high school smokers also obtained cigarettes by “bumming” or borrowing (25.0% [18.0-31.9]), having someone else purchase them (13.5% [7.8-19.3]), or taking from someone without asking (12.1% [5.3-18.8]) (**Figure 3**).

Overall 30.1% (24.2-35.9) of high school students acknowledged having access to loose cigarettes in the area they lived. Of those who knew where to find “loosies,” half identified as non-Hispanic black (50.6% [41.2-59.9]), followed by Hispanic (39.1% [33.4-44.9]), and non-Hispanic white (21.0% [16.6-25.3]).

Figure 3: Current smokers’ means of obtaining cigarettes in the past 30 days, NJYTS 2016



Secondhand Smoke

The 2006 New Jersey Smoke-Free Air Act banned smoking in public places to reduce risk of exposure to secondhand smoke (SHS). Despite this 12-year-old mandate, a notable proportion of high school students were exposed to SHS in public spaces (37.0% [34.8-39.3]) and at school (19.6% [16.2-23.0]). Though less prevalent, students also reported being exposed to secondhand smoke in a vehicle (16.8% [13.7-19.9]), at home (16.0% [12.6-19.3]), and at work (6.5% [5.5-7.5]). SHS exposure prevalence did not differ greatly by race/ethnicity or grade level; however, prevalence of exposure in public spaces was notably higher for females than males (47.0% [44.3-49.7] vs 27.3% [24.4-30.1]).

A quarter (26.1% [21.7-30.5]) of high school students reported currently (within past 30 days) living with a smoker, though this did not vary by gender, race/ethnicity, or grade level. Cigarette smoking was “never allowed” in 83.1% (78.9-87.2) of high school students’ homes. Prevalence of such “household no smoking rules” did not differ notably by gender or grade level but was highest for non-Hispanic white students (84.8% [81.4-88.2]) followed by Hispanic (80.9% [76.9-85.0]) and non-Hispanic black (75.6% [67.0-84.3]) students. For 79.8% (75.6-84.0) of high school students, smoking was “never allowed” in vehicles that they or their family members owned or leased. Prevalence of “vehicle no smoking rules” did not differ by gender and grade level, but was somewhat higher for Hispanic (80.3% [77.0-83.7]) and non-Hispanic white (79.0% [74.3-83.8]) students than non-Hispanic black (75.8% [68.2-83.5]) students.

Prevention

About 42% (42.3% [39.1-45.5]) of students had been taught in school why they should not use tobacco. Similarly, about 1 in 8 students (13.0% [11.2-14.8]) had participated in organized activities designed to prevent youth tobacco use. Non-Hispanic black high school students were more likely to be involved in tobacco cessation activities compared to non-Hispanic whites (19.8% [16.1-23.6] vs 10.7% [8.9-12.5]), but there were no substantial differences by gender or grade level.

Among students who had seen a healthcare professional (i.e. doctor, dentist, or nurse) in the previous 12 months 42.9% (38.6-47.2) were asked about tobacco consumption and 35.5% (32.8-38.2) were advised against use. These estimates were higher for current tobacco users (59.3% [48.6-70.0] and 47.5% [38.1-56.9], respectively) but did not differ by gender, race/ethnicity, or grade level.

Cessation

An estimated 40.4% (32.1-48.8) of cigarette smokers expressed a desire to stop smoking and 53.6% (37.1-70.2) had attempted to quit at least once in the previous year. Of those who had made a quit attempt in the past year, 48.8% (35.5-62.1) used a quit aid, such as a cessation medication or behavioral support. There were no substantive differences in use of cessation aids by demographic.

Summary

Tobacco use prevalence among New Jersey high school students was generally low in 2016 relative to national estimates. (CDC, 2016) For example, prevalence of current tobacco use (i.e., at least one product type in the past 30 days) was 16.8% for New Jersey high school students, as compared to 20.2% for US high school students. However, several findings warrant notation. First, e-cigarettes, followed by hookah and cigars, were the most prevalent products, notably more prevalent than cigarettes, which has historically been among the most popular tobacco products among youth. This suggests that prevention efforts may need to be tailored to account for the popularity of emerging tobacco products among youth. Second, poly-tobacco use was common among high school tobacco users, suggesting that youth may be experimenting with a variety of products. Finally, exposure to secondhand smoke, a known correlate of several adverse health outcomes, was reported by a substantial proportion of students, suggesting that NJ youth would benefit from strengthened enforcement of smoke-free air regulations.

Glossary

Bidis	Small, brown, hand-rolled cigarettes primarily made in India and other Southeast Asian countries; often flavored.
CDC	Centers for Disease Control and Prevention; an agency of the US Department of Health and Human Services.
Current Use	Defined as the use of tobacco on one or more of the 30 days preceding the survey.
E-cigarette	Electronic cigarette, also electronic vaping device, personal vaporizer, or electronic nicotine delivery system (ENDS); a battery-powered device which simulates <u>tobacco smoking</u> .
Ever Use	Defined as the use of a tobacco product over the course of one's lifetime.
Frequent Use	Defined as the use of a tobacco product on 20 or more days of the past 30.
High School Students	Students who were in 9 th , 10 th , 11 th , or 12 th grade at the time of the survey.
Hookah	A water pipe that is used to smoke tobacco and flavored tobacco usually in a group setting; also called hubble-bubble, water-pipe or narghile.
NJYTS	The New Jersey Youth Tobacco Survey is a population-based survey to monitor tobacco use among New Jersey youth.
SHS	Secondhand smoke; a mixture of the smoke given off by the burning end of a cigarette, pipe, or cigar and smoke exhaled from the lungs of smokers.
SLT	Smokeless tobacco (such as chew, snuff or dip).
Snus	Pronounced “snoose,” a moist powder smokeless <u>tobacco</u> product used by placing under the upper lip.

References

Centers for Disease Control and Prevention (2017). Tobacco Use among Middle and High School Students – United States, 2011-2016. *MMWR*, 66(23), 597-603.

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Disclaimer

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