

# Tobacco Surveillance Data Brief: Youth Hookah Use

A joint effort between the New Jersey Department of Health Office of Tobacco Control (OTC) and the Rutgers School of Public Health, Center for Tobacco Studies (CTS). OTC is administratively located in the Public Health Services Branch, Division of Family Health Services

June 2014

Volume X, Issue Y

## Lifetime Hookah Use

According to the 2012 NJYTS, 18.5% of high school students in New Jersey reported having ever tried hookah in their lifetime, representing a slight increase from 17.9% in 2008. As shown in Table 1, lifetime or ever hookah use was more prevalent among males relative to females and among Hispanics relative to whites, and prevalence generally increased with grade level. Lifetime hookah use also varied by smoking status, as prevalence was markedly higher among those who reported current cigarette smoking as compared to non-smokers. Lifetime hookah use increased significantly ( $p < 0.05$ ) among blacks, Hispanics, and current cigarette smokers from 2008 to 2010, but there were no significant changes from 2010 to 2012.

**Table 1: Lifetime Hookah Prevalence by Demographics and Cigarette Smoking Status, NJYTS 2008 -2012**

	Lifetime Hookah Use		
	<u>2008</u> % (95% CI)	<u>2010</u> % (95% CI)	<u>2012</u> % (95% CI)
<b>Overall</b>	17.9 (15.5–20.5)	20.9 (18.4–23.7)	18.5 (15.6–21.9)
<b>Gender</b>			
Male	18.9 (16.3–21.8)	21.3 (19.2–23.6)	19.2 (16.5–22.2)
Female	17.0 (14.2–20.1)	20.5 (17.4–24.0)	17.7 (13.8–22.4)
<b>Race/Ethnicity</b>			
White, Non-Hispanic	19.4 (16.4–22.9)	19.3 (16.4–22.7)	18.2 (15.1–21.9)
Black, Non-Hispanic	12.5 (9.7–16.0)	20.1 (15.7–25.4)	12.9 (8.5–19.1)
Hispanic	17.3 (14.7–20.3)	27.2 (20.2–35.6)	25.7 (21.1–30.9)
Asian	19.8 (15.2–25.3)	19.2 (13.1–27.3)	13.9 (8.3–22.3)
Other	17.0 (9.6–28.3)	22.9 (16.1–31.4)	31.1 (13.6–56.4)
<b>Grade Level</b>			
9 <sup>th</sup>	10.9 (8.8–13.4)	14.0 (10.4–18.6)	9.4 (7.1–12.5)
10 <sup>th</sup>	16.4 (12.7–20.9)	17.9 (12.9–24.4)	14.3 (9.2–21.5)
11 <sup>th</sup>	20.9 (17.1–25.4)	20.3 (17.4–23.5)	22.1 (18.5–26.1)
12 <sup>th</sup>	24.1 (18.7–30.4)	32.2 (27.4–37.4)	28.8 (23.4–34.9)
<b>Current Cigarette Use</b>			
Yes	45.6 (39.7–51.5)	59.8 (52.8–66.3)	67.4 (58.3–75.4)
No	13.5 (11.4–15.9)	14.7 (12.3–17.5)	12.9 (10.2–16.2)

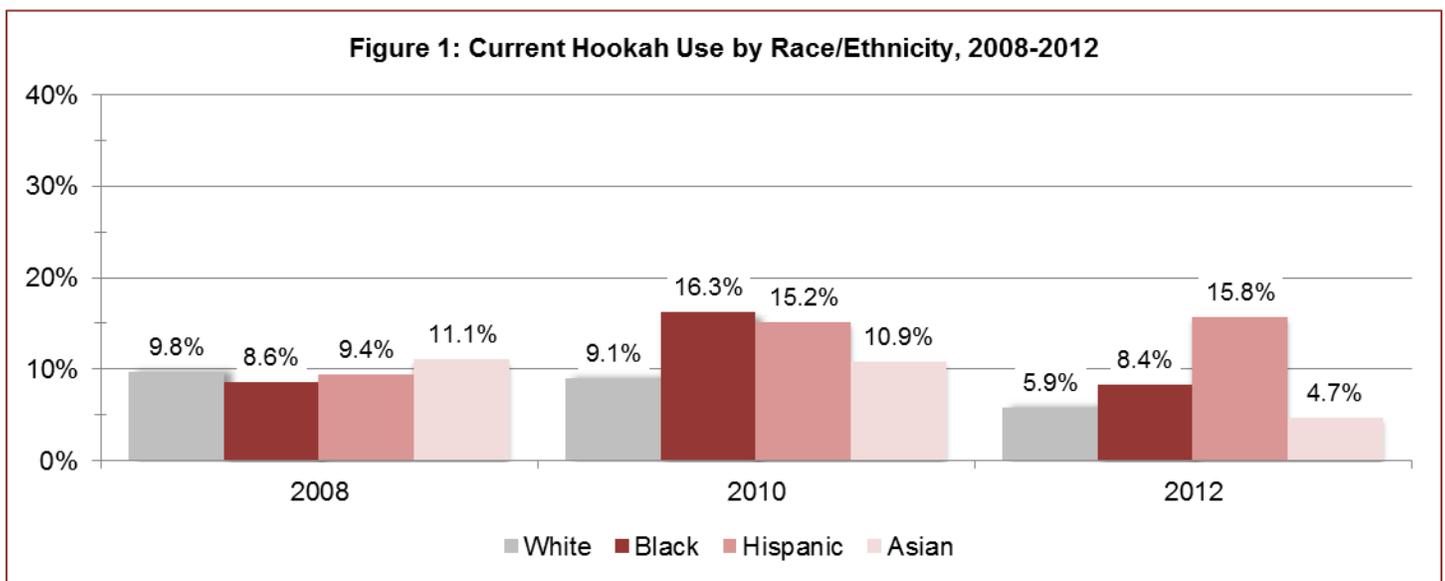
*CI, Confidence Interval*

## Current Hookah Use

Current hookah use increased from 9.7% (95% CI, 8.1–11.4) in 2008 to 11.4% (9.9–13.2) in 2010; however prevalence then decreased to 8.4% (6.7–10.5) in 2012. Each year, hookah was the most prevalent non-cigarette tobacco product among New Jersey high school students, and rates of current hookah use varied by race/ethnicity and cigarette smoking status.

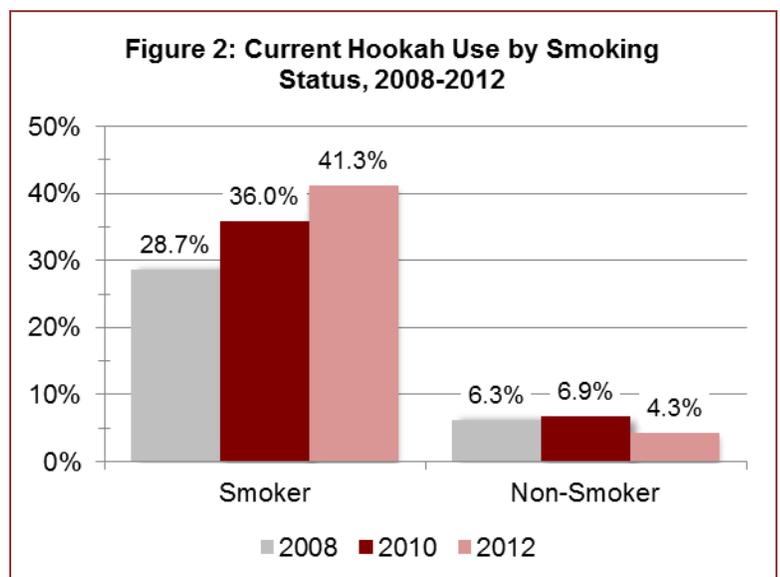
### Race/Ethnicity

As seen in Figure 1, racial/ethnic disparities have become more apparent with each NJYTS administration. Race/ethnicity was significantly associated with current hookah use in 2012 ( $p < 0.001$ ), with prevalence greatest among Hispanics (15.8% [12.4–20.0]).



### Cigarette Smoking

As demonstrated in Figure 2, use of hookah was significantly associated with current cigarette smoking, with prevalence among smokers nearly ten times that of non-smokers in 2012 (41.3% [31.5–51.9] vs. 4.3% [3.2–5.7],  $p < 0.001$ ). Additionally, prevalence of current hookah use among cigarette smokers has increased steadily from 2008 to 2012.



## Limitations

The findings in this brief are subject to limitations that are common to survey research, including sampling bias and recall bias. Additionally, tobacco use is often underreported among youth (CDC, 2003; Delnevo et al, 2002); therefore our estimates may be underestimated. Further, causality between cigarette smoking and hookah use cannot be determined from this aggregate analysis of three cross-sectional studies.

It should also be noted that the effects of Superstorm Sandy in October 2012 caused delays, rescheduling, and cancellations of survey administrations at several schools. As a result, sample sizes for the 2012 NJYTS were notably smaller than those of previous years, which impacted the precision of prevalence estimates for 2012. Finally, slight modifications in question wording and order in the 2012 NJYTS administration may present an additional limitation; changes in prevalence from 2010 to 2012 should be interpreted with caution.

## Summary

Among high school students in 2012, hookah prevalence was higher among Hispanics and current cigarette smokers. Increased hookah use was observed between 2008 and 2010, including significant increases among blacks and Hispanics; however, rates generally decreased in 2012. Despite this overall decrease in prevalence between 2010 and 2012, current hookah use rates continued to increase for Hispanics and current cigarette smokers. Moreover, hookah was the most popular non-cigarette tobacco product among high school students in 2010 and 2012.

The popularity of hookah among New Jersey teenagers raises several public health concerns. The notably high prevalence of hookah among cigarette smokers highlights a need to include hookah in tobacco prevention education programs and tobacco control regulations alike. Additionally, the high use rates among Hispanic youth suggest that the dangers of hookah use may not be adequately communicated to this group and culturally appropriate interventions may be especially beneficial. Finally, because these findings suggest that hookah is accessible to high school students, strict enforcement of smoke-free air and tobacco age-of-sale regulations may help reduce hookah use among New Jersey youth.

### Methodology

The data in this brief are from the 2008, 2010, and 2012 New Jersey Youth Tobacco Survey (NJYTS). The NJYTS is a state-wide cross-sectional survey designed to provide representative prevalence estimates of tobacco use and risk factors among New Jersey youth; the 2008, 2010, and 2012 NJYTS were administered to 3,010, 2,641, and 1,864 high school students (grades 9-12), respectively. The survey is administered in randomly selected schools using a 2-stage random sampling approach. Analyses were conducted using SUDAAN version 11, which accounts for the complex sample design, and the data are weighted to adjust for non-response and the varying probabilities of selection, including those from oversampling.

Lifetime hookah use is defined as having ever smoked a hookah in one's lifetime.

Current hookah use is defined as having smoked hookah at least once in the 30 days preceding the survey.

Current cigarette smoking is defined as having smoked cigarettes on at least 1 of the 30 days preceding the survey.

For more information on the Office of Tobacco Control or the NJYTS, please contact the New Jersey Department of Health via their website at <http://www.state.nj.us/health/as/ctcp/>

*Suggested Citation:* Rutgers, The State University of New Jersey, School of Public Health, Center for Tobacco Studies; Tobacco Surveillance Data Brief: Hookah Smoking among Youth; Volume X, Issue Y.