



Brief report

Youth Access to Tobacco Products in the United States: Findings From Wave 1 (2013–2014) of the Population Assessment of Tobacco and Health Study

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Abstract

Objectives: Tobacco products in the US market are growing in diversity. Little is known about how youth access tobacco products given this current landscape.

Methods: Data were drawn from 15- to 17-year-olds from the Wave 1 youth sample of the US nationally representative Population Assessment of Tobacco and Health (PATH) Study. Past 30-day tobacco users were asked about usual sources of access to 12 different tobacco products, and if they had been refused sale because of their age.

Results: Among 15- to 17-year-olds, social sources (“someone offered” or “asked someone”) were the predominant usual source of access for each tobacco product. “Bought by self” was the usual source of access for users of smokeless (excluding snus, 23.2%), cigarillos (21.0%), cigarettes (13.8%), hookah (12.0%), and electronic cigarettes (10.5%). Convenience stores and/or gas stations were the most often selected retail source for all products except hookah. Among youth who attempted purchase, 24.3% were refused sale of cigarettes, 23.9% cigarillos, and 13.8% smokeless tobacco.

Conclusions: Most 15- to 17-year-old tobacco users obtain tobacco products through social sources; however, among those who purchased tobacco, the majority report not being refused sale because of age. At the time of survey, cigarette and cigar sales to under 18 years were prohibited in all 50 states, and electronic cigarettes sales in 47 states and two territories. 2014 Annual Synar Reports signaled increasing trends in retail violations of state and/or district laws prohibiting tobacco product sales to under 18 years. Monitoring illicit youth sales, conducting compliance check inspections, and penalizing violations remain important to reduce youth tobacco access at retail venues.

Implications: Access to the spectrum of tobacco products by youth in the United States remains predominantly through social sources. However, of the minority of youth tobacco users in 2014 who purchased tobacco themselves, a few reported being refused sale: Convenience stores and/or gas stations were the most common retail source for tobacco products. The strategies of monitoring illicit youth sales, conducting compliance checks, and penalizing violations remain important to reduce youth tobacco access at retail venues. Limiting sources of youth tobacco access remains an important focus to reduce the burden of tobacco on the public health.

Introduction

Historically, tobacco prevention efforts have focused on cigarettes with good effect: Youth cigarette smoking declined from 28% current use (defined as use in the past 30 days) among high school students in 2000 to 7.6% in 2017.^{1,2} Despite this improvement, 19.6% of US high school students reported current use of any tobacco product in 2017, including 11.7% having used electronic cigarettes (e-cigarettes), 7.7% cigars, and 3.3% hookah.² With these changes in the tobacco use landscape, there is a lack of data regarding sources of access to noncigarette products among youth. Understanding access sources and patterns across products may guide additional interventions to protect youth from tobacco initiation.

A key strategy that state and federal regulators have used to discourage youth cigarette uptake has been access restriction at retail outlets via minimum purchase age. Since 1992, implementation and enforcement has been achieved in part by the Synar Amendment, which required states to enact laws prohibiting sales to under age 18. Contemporary to this article's data collection, the 2014 Synar Report identified trends of increasing retail violations of these state and/or district prohibitions of tobacco product sales to minors (retailer violation rate from 9.3% in 2010 to 9.8% in 2014).³

In 2010, the Family Smoking Prevention and Tobacco Control Act (FSPTCA)⁴ gave the Food and Drug Administration (FDA) authority to restrict sales of cigarettes, cigarette tobacco, and smokeless tobacco to those aged 18 years and older, requiring photo ID checks for age verification under age 27. In 2016, FDA extended its regulatory authority to include electronic nicotine delivery systems (inclusive of e-cigarettes and vape pens), all cigars (cigarillos, filtered cigars, traditional cigars), hookah and pipe tobacco, and any other product meeting the statutory definition of "tobacco product." Prior to this rule, and contemporary to survey data collection, 47 states and two territories had laws prohibiting e-cigarette sales to minors,^{5,6} and all 50 states and the District of Columbia had cigar sales restrictions to minors. Hookah laws vary by state, but in many instances had not been included in other tobacco restrictions such as minimum age.⁷ More recently, 235 cities and 6 states have increased the legal age of tobacco sale to 21 through laws and ordinances (Tobacco21.org).⁸⁻¹⁰ Beyond retail stores, there is concern that sales to minors via the Internet may be insufficiently restricted due to lack of compliance with laws and enforcement difficulties.¹¹

This study draws on US nationally representative data to examine self-reported sources of youth access to 12 tobacco products (cigarettes, traditional cigars, cigarillos, filtered cigars, e-cigarettes (electronic nicotine delivery systems), hookah, pipe tobacco, smokeless tobacco, snus pouches, dissolvable tobacco, and bidis and/or kreteks), including detailed access patterns for 15- to 17-year-old current users. Because of low prevalence of use among 12- to 14-year-olds, this age group was excluded. We also describe the proportion of youth who were recently refused sale of a tobacco product from retail outlets.

Methods

Data are from Wave 1 (September 2013–December 2014) of the Population Assessment of Tobacco and Health (PATH) Study, a nationally representative, longitudinal cohort study of 45 971 adults and youth in the United States, aged 12 years and older. The PATH Study used audio computer-assisted self-interviews available in English and Spanish to collect information on tobacco-use patterns and associated health behaviors. This analysis draws from 6553 interviews of 15- to 17-year-olds. Parent interviews were conducted with one parent of nearly every youth participant. Recruitment employed address-based, area-probability sampling, using an in-person household screener to select youths and adults. The data file provides weights for adjusting for oversampling and nonresponse; combined with the use of a probability sample, the weighted data allow the estimates produced by the PATH Study to be representative of the noninstitutionalized, civilian US population. The weighted response rate for the household screener was 54.0%. Among households screened, the overall weighted response rate was 78.4% for the Youth Interview. Missing data on age, gender, race, Hispanic ethnicity, and adult education were imputed as described in the PATH Restricted-Use Files User Guide.¹² Further details regarding the PATH Study design and methods are published by Hyland et al.¹³ (data available at <http://www.icpsr.umich.edu/icpsrweb/NAHDAP/series/606>). The study was conducted by Westat and approved by Westat's institutional review board.

Tobacco Use

Participants were asked if they had ever used the following tobacco products: cigarettes, traditional cigars, cigarillos, filtered cigars, e-cigarettes, hookah, pipe tobacco, smokeless tobacco, snus pouches, dissolvable tobacco, and bidis and/or kreteks. Each category of cigar and smokeless was considered a separate product type. Pictures of each product type (except cigarettes) were shown to enhance accuracy. Participants who reported using a product in the last 30 days were defined as current users.

Tobacco Access

Current users were queried about usual source of access to each product: "In the past 30 days, how did you usually get your own <name of specific tobacco product>?" Response options were the following: "I bought <> myself; I gave someone else money to buy <> for me; I asked someone to give me <>; Someone offered me a <>; I bought <> from another person; I took <> from a store or another person; I got <> some other way (specified in free text)." If users reported buying themselves or gave money to someone to purchase for them, they were asked if they (or the person they gave money to) usually bought the product in person, over the Internet or by telephone. If tobacco products were purchased in-person, they were asked "Where do [you/they] buy your <> most of the time?" Response options were "convenience store or gas station; supermarket, grocery store or drug store;

warehouse club, such as Sam's or Costco; smoke shop, tobacco specialty store or tobacco outlet store (hereafter referred to as smoke shop); duty free shop or military commissary; bar, pub, restaurant or casino; friend or relative; swap meet or flea market; store on an Indian reservation; or somewhere else (specified in free text)." Free text frequently identified "hookah bar," for example. For these analyses, the following were combined into the category of "other": warehouse club; duty-free shop or commissary; bar, pub, restaurant or casino; friend or relative; swap meet or flea market; store on an Indian reservation; and somewhere else. Past 30-day tobacco users were asked if they had been refused the sale of the product in the past 30 days because of their age.

Covariates

Participants self-reported age, gender, and race and ethnicity.¹² Parents reported if they believed tobacco was available in the child's home (used as a proxy for home access). Because of the use of imputed demographic variables and recoding of missing values, no records were dropped from analysis.

Statistical Analysis

All analyses were weighted to account for complex sampling design and nonresponse; variance estimates were computed using Fay's balanced repeated replication (0.3) using weights provided by the PATH Study. Percentage estimates were considered statistically unreliable and suppressed if the denominator sample was less than 50 or if the coefficient of variation of the estimate or its complement was larger than 30%. All analyses were conducted with the R statistical survey package, version 3.2.0; Wilson 95% confidence intervals (CI) were derived using logistic regression.¹⁴

Results

Detailed demographic characteristics of youth participants enrolled in Wave 1 have previously been reported.¹⁵ Table 1 demonstrates

parental report of youth access to tobacco in the home, participant tobacco use, and population prevalence rates. Additional details about the sample are available elsewhere.¹³

Sources of Access

Figure 1 presents the top three usual sources for accessing the five most commonly used tobacco products among youth. For these youth, social sources (asked or someone offered) were the most common source for cigarettes, e-cigarettes, cigarillos, and hookah.

Place of Purchase

The top usual retail sources were determined for the five most frequently used tobacco products. Among current users who bought tobacco products themselves or gave someone money to buy tobacco, the usual retail source was a convenience store or gas station for cigarettes, [85.4% (95% CI = 79.2% to 90.0%)]; cigarillos, [87.2% (78.5% to 92.7%)]; and smokeless, [85.9% (74.5% to 92.7%)]. For e-cigarettes, usual retail source was either a smoke shop [49.8% (36.1% to 63.5%)] or a convenience store or gas station [32.3% (20.6% to 46.8%)]. Hookah was most often purchased at a smoke shop [51.3% (34.7% to 67.5%)], or from "somewhere else" (nearly all accounted for by hookah bar or café) [28.3% (16.3% to 44.4%)].

Internet and telephone sales were rarely a usual source of tobacco purchase. No cigarette, cigarillo, or smokeless users purchased tobacco via Internet or telephone, and too few youth purchased e-cigarettes or hookah via Internet or telephone to report a proportion that would be statistically reliable.

Purchase Refusal because of Age

All current users were asked if they had been refused sale in the past 30 days, irrespective of whether they usually obtained tobacco

Table 1. Tobacco Home Access and Past 30-day Use by Tobacco Products for 15- to 17-Year-Olds, Weighted Values

	Unweighted	Weighted	Weighted
	<i>n</i>	<i>N</i>	%
Parental report home access to cigarettes or tobacco			
No	5249	9 731 119	79.0
Yes	1404	2 584 384	21.0
Tobacco use			
Not a past 30-day user of any product	5696	10 539 882	85.6
Past 30-day user of one product	534	996 247	8.1
Past 30-day user of >1 products	423	779 375	6.3
Individual tobacco product use, past 30 days			
Cigarettes	533	963 337	7.8
Electronic cigarettes	342	644 318	5.2
Cigarillos	257	463 254	3.8
Hookah	189	352 513	2.9
Smokeless tobacco (other than snus)	154	299 292	2.4
Traditional cigar	78	155 336	1.3
Filtered cigar	61	103 164	0.8
Pipe tobacco	31	56 078	0.5
Snus pouches	54	103 533	0.8
Dissolvable tobacco	*	*	*
Bidi	*	*	*
Kretek	*	*	*

*Estimate suppressed because of statistical unreliability (see the Statistical Analysis section for details).

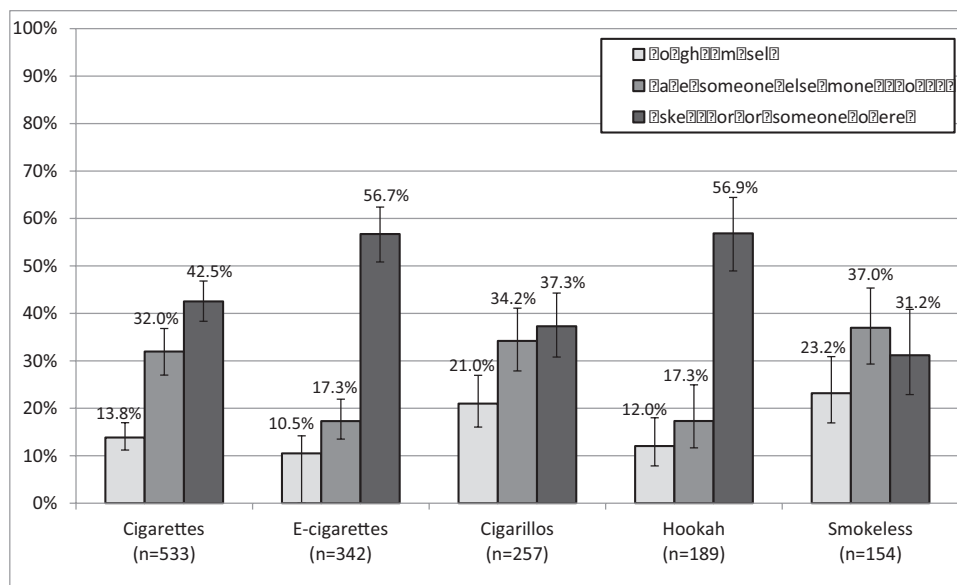


Figure 1. Top three sources of tobacco products among 15- to 17-year-old past 30-day users. Estimates were suppressed for other product categories. Weighted percentages and 95% CI presented. Other sources not included in the figure were “bought from someone/took from store or other person” and “other/missing/don’t know/refused.”

via retail sale or through social sources. Although the majority of youth had not attempted to purchase tobacco products, of those who did most were not refused sale in the past 30 days. Sale was refused to 24.3% (95% CI = 18.5% to 31.3%) for cigarettes, 23.9% (15.9% to 34.3%) for cigarillos, and 13.8% (7.2% to 24.8%) for smokeless. The estimated percentages of youth who were refused sale of e-cigarettes or hookahs were statistically unreliable.

Conclusions

Within this nationally representative study, 14.4% of 15- to 17-year-olds reported current use of any tobacco product. As these youth were legally prohibited from being sold these products at the time of data collection in nearly every state, understanding how they access tobacco may be important to inform enforcement efforts. This study adds to the literature by assessing access to a broad range of tobacco products, including electronic nicotine delivery systems. Similar to previous studies, this study found that the majority of youth who are currently using tobacco products obtain them from social sources such as friends and/or peers, and many youth give others money to purchase tobacco products for them. Depending on the product, between 68.2% (smokeless) and 74.5% (cigarettes) of youth obtained tobacco from a social source; far fewer are making retail purchases themselves. This is similar to the school-based Youth Risk Behavior Survey 2009/2011 that found that 27.3% of youth gave money to someone to purchase tobacco and 27.7% obtained cigarettes from someone else.¹⁶ In the current study, of those who attempted to buy tobacco or gave money to someone else most usually purchase tobacco products from convenience stores or gas stations. The exceptions to this were hookah and e-cigarettes, which were more often purchased in a hookah bar or café or in a smoke shop.

There is growing evidence that raising the minimum purchase age can contribute to declines in youth tobacco use, not only among 18- to 21-year-olds directly affected by the law, but also among younger

youth who might obtain tobacco from those 18 and older.¹⁷⁻¹⁹ Accordingly, this is used as justification for local and state-level policy initiatives to raise the minimum tobacco purchase age to 21 years.^{20,21}

Youth in this sample did not often self-purchase tobacco, but of those who attempted to purchase tobacco, the majority were not refused sale. Studies indicate that youth-access laws reduce youth smoking prevalence, but improvement in retailer compliance and increased enforcement efforts are needed.^{3,22,23} In 2014, minimum age requirements may not have been robustly enforced due to limited state resources, and FDA was still developing its enforcement program for cigarettes and smokeless tobacco (and did not yet regulate other products).

Limitations

Respondents who reported current use of each tobacco product were asked about their usual source of each product, which forced a single response when there may be multiple sources. There were a small overall number of respondents for many tobacco product categories and sources, necessitating some suppression of data, including that of youth younger than 15. We did not obtain information about friend smoking as a social influence, which is a known impact on smoking initiation. Finally, although a frequently used definition, current use as within the past 30 days may capture trial use; this may have different patterns for youth access than more established use.

Summary

Youth access to the spectrum of tobacco products is predominantly through social sources. Of the minority of youth tobacco users in 2014 who purchased tobacco themselves, a few reported being refused sale. Convenience stores and/or gas stations were the most common retail source for tobacco products. The strategies of monitoring illicit youth sales, conducting compliance checks, and penalizing violations remain important to reduce youth tobacco access at retail venues. Limiting sources of youth tobacco access remains

an important focus to reduce the burden of tobacco on the public health.

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Declaration of Interests

This research was completed while Ling Yang and Chase Ryant were employed by the FDA, Center for Tobacco Products. The views and opinions expressed in this article are those of the authors only and do not necessarily represent the views, official policy, or position of the US Department of Health and Human Services or any of its affiliated institutions or agencies.

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