

# Identification Checks and Underage Sales of Tobacco Products in New Jersey, 2019-2022

Amanda Y. Kong, PhD, MPH; Mary Hrywna, PhD, MPH; Christopher Ackerman, MPH; Joseph G. L. Lee, PhD, MPH; Cristine D. Delnevo, PhD, MPH

---

## I d c

In 2017, New Jersey became one of the first states to pass legislation to increase the minimum legal sales age of tobacco from 18 to 21 years (or Tobacco 21, hereafter T21), followed by later federal T21 enactment in 2019. This study examines factors associated with T21 compliance in a 3-wave longitudinal sample of New Jersey tobacco retailers between 2019 and 2022.

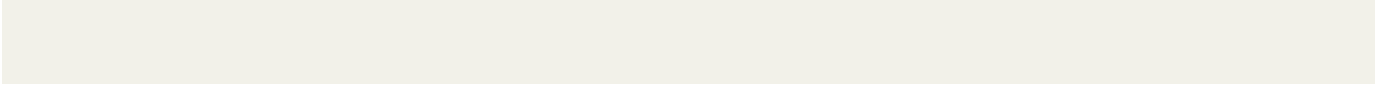
## M d

The Rutgers institutional review board determined this cross-sectional study was non-human participants research; thus, informed consent was not needed, in accordance with 45 CFR §46.<sup>1,2</sup> This study followed the [STROBE](#) reporting guidelines. Methods are detailed in the eMethods in [Supplement 1](#): in brief, we randomly sampled tobacco retailers in high and low population density municipalities within a 25-mile radius of New Brunswick, New Jersey. We calculated tobacco retailer availability (TRA) by geocoding retailer addresses and determined the total number of tobacco retailers per square mile within each census tract. We fit generalized estimating equation models to account for nesting of visits within retailers and included a year fixed effect. Models tested associations with 95% CIs between product type, store type, and TRA with 3 dichotomous primary outcome variables: identification (ID) checked, ID scanned, and sale completed.

## R

Underage buyers (aged 18-20 years) completed 2663 purchase attempts for tobacco products in 70 unique retailers between August 2019 and September 2022. Nearly 40% of purchase attempts were made in nonchain convenience stores, followed by chain convenience stores (33.2%), other store types (11.5%), drug stores (8.8%), and gas kiosks (6.7%). Cigarettes (32.7%) and cigars and/or cigarillos (32.3%) were the most common products attempted for purchase, followed by electronic cigarettes (24.5%) and nicotine pouches (10.5%). Only approximately 60% of purchase attempts resulted in an ID check, and nearly one-half (49.5%) resulted in an underage sale (**Tab 1**). Even after an ID check, underage sales occurred in 15.3% of visits. Electronic ID scanning occurred 22.3% of the time, and among these, only 17 (3.2%) resulted in an underage sale.

Compared with chain convenience stores, drug stores had a higher odds of checking ID



sales. Retailers in areas with greater TRA may be less likely to check IDs and may need to be targeted for T21 compliance checks, especially given neighborhood racialized and socioeconomic inequities in TRA<sup>3</sup> and underage sales violations.<sup>4</sup> A growing number of visits implemented electronic ID scanning, and there were very few completed sales after electronic ID scanning. Electronic ID verification may help improve tobacco age of sale compliance.<sup>5</sup>

Our sample of retailers was limited to retailers in New Jersey (2019-2022), and results may not be generalizable. Additionally, our first wave of data collection ended just as the COVID-19 pandemic began (March 2020), and the second wave was conducted later in the pandemic (June 2021).

Despite state and federal implementation of T21, our findings suggest that retailers are not consistently checking IDs, and underage sales of tobacco products are occurring often. This study demonstrates the urgent need for continued compliance and enforcement of state and federal T21 policies. Without the full implementation of T21, the potential impact on youth and young adult tobacco use may be substantially hindered.

---

## ARTICLE INFORMATION

**Acc d P b ca** : November 24, 2024.

**P b d**: January 30, 2025. doi:[10.1001/jamanetworkopen.2024.57319](https://doi.org/10.1001/jamanetworkopen.2024.57319)

**O Acc** : This is an open access article distributed under the terms of the [CC-BY License](https://creativecommons.org/licenses/by/4.0/). © 2025 Kong AY et al. *JAMA Network Open*.

**C d A** : Amanda Y. Kong, PhD, MPH, Department of Social Sciences and Health Policy, Division of Public Health Sciences, Wake Forest University School of Medicine, Winston-Salem, NC 27101 ([akong@wakehealth.edu](mailto:akong@wakehealth.edu)).

**A A a** : Department of Social Sciences and Health Policy, Division of Public Health Sciences, Wake Forest University School of Medicine, Winston-Salem, North Carolina (Kong); Rutgers Institute for Nicotine & Tobacco Studies, Rutgers University, New Brunswick, New Jersey (Hrywna, Ackerman, Delnevo); Department of Health Behavior, Society & Policy, Rutgers School of Public Health, Piscataway, New Jersey (Hrywna, Delnevo); Department of Health Education and Promotion, College of Health and Human Performance, East Carolina University, Greenville, North Carolina (Lee).

**A C b** : Drs Kong and Delnevo had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

*Concept and design*: Kong, Hrywna, Delnevo.

*Acquisition, analysis, or interpretation of data*: All authors.

*Drafting of the manuscript*: Kong, Hrywna, Delnevo.

*Critical review of the manuscript for important intellectual content*: All authors.

*Statistical analysis*: Kong, Delnevo.

*Obtained funding*: Hrywna, Delnevo.

*Administrative, technical, or material support*: Hrywna, Ackerman, Lee, Delnevo.

*Supervision*: Hrywna, Delnevo.

**C c I D c** : Dr Kong reported having served as a paid expert consultant in litigation against the tobacco industry. Dr Lee reported having a patent for an invention that is owned by the University of North Carolina at Chapel Hill, with royalties paid from Counter Tools. Dr Delnevo reported being chair of the Food and Drug Administration Tobacco Products Scientific Advisory Committee outside the submitted work. No other disclosures were reported.

**F d /S** : This work was supported by the National Cancer Institute of the National Institutes of Health

**Data Supplement 1** : See [Supplement 2](#).

**Additional Contributors** : We thank the data collectors who made this research possible.

## REFERENCES

1. Hrywna M, Kong AY, Ackerman C, Hudson SV, Delnevo CD. Retailer compliance with Tobacco 21 in New Jersey, 2019-2020. *JAMA Network Open*. 2022;5(10):e2235637. doi:10.1001/jamanetworkopen.2022.35637
2. Hrywna M, Kong AY, Ackerman C, et al. Assessing the effectiveness of Tobacco 21 laws to reduce underage access to tobacco: protocol for a repeated multi-site study. *Methods Protoc*. 2023;6(2):27. doi:10.3390/mps6020027
3. Kong AY, Lee JGL, Halvorson-Fried SM, et al. Neighbourhood inequities in the availability of retailers selling tobacco products: a systematic review. *Tob Control*. Published online July 20, 2024. doi:10.1136/tc-2024-058718
4. Lee JG, Landrine H, Torres E, Gregory KR. Inequities in tobacco retailer sales to minors by neighbourhood racial/ethnic composition, poverty and segregation, USA, 2015. *Tob Control*. 2016;25(e2):e142-e145. doi:10.1136/tobaccocontrol-2016-053188
5. Roberts ME, Klein EG, Ferketich AK, et al. Beyond strong enforcement: understanding the factors related to retailer compliance with Tobacco 21. *Nicotine Tob Res*. 2021;23(12):2084-2090. doi:10.1093/ntr/ntab093

## SUPPLEMENT 1.

**Media**  
**Resources**

## SUPPLEMENT 2.

**Data Supplement 1**