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Abstract A130: Tobacco retailer density and smoking behaviors: The Multiethnic Cohort and Southern Community Cohort Study

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Journal

Cancer Epidemiology Biomarkers & Prevention, 35(10_Supplement)

ISSN

1055-9965

Authors

Ton, Mimi
Wu, Nelson
Lin, Katherine
et al.

Publication Date

2026-10-18

DOI

10.1158/1538-7755.disp26-a130

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TOBACCO AND CANCER | OCTOBER 18 2026

Abstract A130: Tobacco retailer density and smoking behaviors: The Multiethnic Cohort and Southern Community Cohort Study

Mimi Ton; Nelson Wu; Katherine Lin; Meera Sangaramoorthy; Dian Gu; Cherie Guillermo; Pushkar Inamdar; Jun Wu; Yuhong Zhou; Kirsten Beyer; Mindy C. DeRouen; Alexandra M. Binder; Daniel Stram; Scarlett L. Gomez; Lynne R. Wilkens; Loïc Le Marchand; Salma Shariff-Marco; Melinda C. Aldrich; S. Lani Park; Iona Cheng

Check for updates

— Author & Article Information

Online ISSN: 1538-7755
Print ISSN: 1055-9965

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Cancer Epidemiol Biomarkers Prev (2026) 35 (10_Supplement): A130.

https://doi.org/10.1158/1538-7755.DISP26-A130

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Abstract

Purpose:

Tobacco retailer density (TRD) is an attribute of the built environment that may contribute to disparities in smoking behaviors by increasing access and exposure to tobacco products, particularly in historically marginalized communities. In a large cross-sectional study, we examined the association between neighborhood TRD and smoking behaviors within the Multiethnic Cohort Study (MEC) and the Southern Community Cohort Study (SCCS).

Methods:

We included MEC and SCCS participants who provided baseline smoking information and had geocoded addresses (n=210,391 and 84,095, respectively) that were annotated with neighborhood TRD, scaled to cohort-specific distributions. TRD for census tracts was calculated using Mergent business data as the average number of tobacco retailers per 1,000 residents over a 5-year period covering the year of study enrollment. We used logistic (current vs. never smoking) and linear (smoking pack-years) regression models with robust standard errors clustered by census tract to

estimate the association between neighborhood TRD and smoking behaviors, adjusting for age, sex, and race/ethnicity. Subgroup analysis examined associations by race/ethnicity.

Results:

The study included 210,391 MEC and 84,095 SCCS participants. At baseline, 15.7% of MEC and 39.7% of SCCS participants reported current smoking, while 44.0% of MEC and 35.2% of SCCS participants reported never smoking. In the MEC, participants living in neighborhoods at the highest level of TRD (>1 vs. no retailers) had a higher likelihood of current smoking (OR: 1.17, 95% CI: 1.06, 1.31). Similar patterns were observed when stratified by race/ethnicity, with a smaller effect among Latino participants. In the MEC, a positive association with pack-years was observed for participants living in neighborhoods with >1 versus no tobacco retailers (β: 0.30, 95% CI: -0.30, 0.89). In the SCCS, participants living in neighborhoods at the highest level of TRD (>2 vs. no retailers) also had a higher likelihood of current smoking (OR: 1.19, 95% CI: 1.03, 1.37). Among White SCCS participants, a larger OR for current smoking was observed for those living in neighborhoods at the highest TRD category (OR: 1.65, 95% CI: 1.30, 2.08). While among African American/Black SCCS participants, no association was observed. In addition, a non-statistically significant positive association with pack-years was observed for SCCS participants living in neighborhoods with >2 vs. no tobacco retailers (β: 0.19, 95% CI: -1.38, 1.77).

Conclusions:

In initial analyses, we found that the neighborhood-level TRD was associated with current cigarette smoking. Next steps will include fully adjusted models accounting for multilevel covariates and associations with smoking cessation. Findings highlight the complex relationships between TRD and smoking behaviors and underscore the importance of addressing disparities in the neighborhood tobacco retail environment.

Citation Format:

Mimi Ton, Nelson Wu, Katherine Lin, Meera Sangaramoorthy, Dian Gu, Cherie Guillermo, Pushkar Inamdar, Jun Wu, Yuhong Zhou, Kirsten Beyer, Mindy C. DeRouen, Alexandra M. Binder, Daniel Stram, Scarlett L. Gomez, Lynne R. Wilkens, Loïc Le Marchand, Salma Shariff-Marco, Melinda C. Aldrich, S. Lani Park, Iona Cheng. Tobacco retailer density and smoking behaviors: The Multiethnic Cohort and Southern Community Cohort Study [abstract]. In: Proceedings of the 19th AACR Conference on the Science of Cancer Health Disparities; 2026 Oct 18-21; Atlanta, GA. Philadelphia (PA): AACR; Cancer Epidemiol Biomarkers Prev 2026;35(10 Suppl):Abstract nr A130.

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