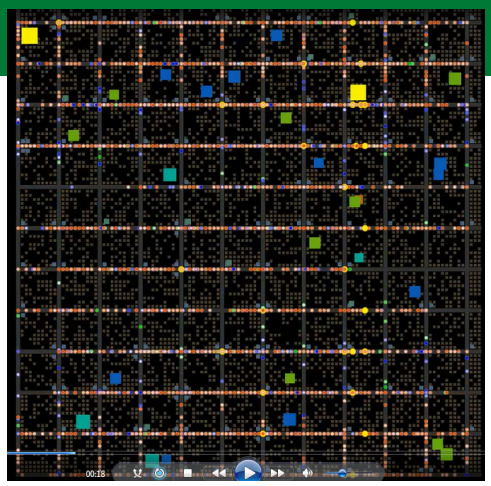
RESEARCH BRIEF

Development of a computational modeling laboratory for examining tobacco control policies: *Tobacco Town*



Despite a growing interest in retail-focused tobacco control interventions, a body of evidence for effective retail policies has been slow to emerge. Opportunities to test policy variations in real-world settings are limited and analysis of impact is challenging due to the complicated interaction of diverse factors over time. The solution: A computer model that can capture what happens as settings, policies, and consumer preferences change, in ways that would not be possible through traditional, on-the-ground observation.

In this study, the research team used a computer model called *Tobacco Town* to represent hypothetical cities populated by cigarette smokers who travel between home and other destinations making choices along the way about whether to buy cigarettes and what to buy. Based on data from representative US cities, the model simulates changes driven by different retail policies and their impact on purchase decisions and costs. The study varied retailer density across wide ranges, in different town-type settings.

***RESEARCH BRIEF based on this article:** Hammond, R.A., Combs, T.B., Mack-Crane, A., Kasman, M., Sorg, A., Snider, D., & Luke, D.A. (2019). Development of a computational modeling laboratory for examining tobacco control policies: Tobacco Town. Health and Place. https://doi.org/10.1016/j.healthplace.2019.102256.

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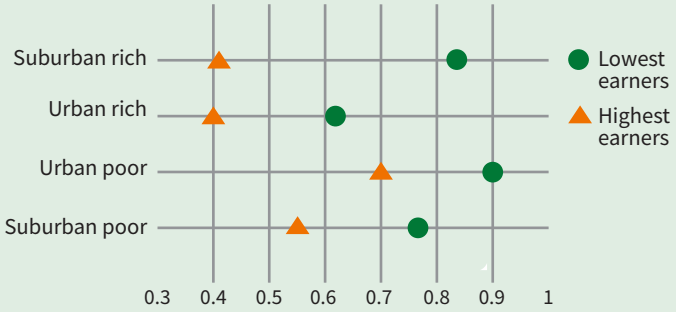
KEY TAKEAWAYS FROM THE RESEARCH

When retailers were relatively abundant, small or moderate density reduction had minimal impact on cost to consumers. When retailers were scarce, those reductions had dramatic impacts. Density reduction had less impact in poor urban and suburban areas than in high-income areas.

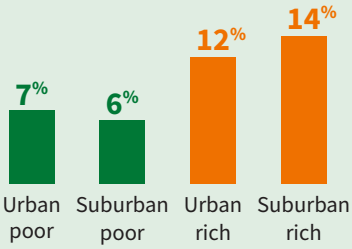
The **lowest-earning smokers travel longer distances** than the **highest-earning smokers** to buy cigarettes



Average miles traveled to retailer for smokers in each town type

> ***Tobacco Town* is intended to serve as a policy laboratory for retail tobacco interventions.** Future work will include expansion of the model to consider geographical data-driven settings, retailer dynamics, tobacco initiation and cessation, and underage tobacco use."

Low-income areas saw **lower increases in cigarette costs** than their **higher-income counterparts** when retailer density was proportionately reduced



Cigarette cost increases with retailer density reduction from 85th to 15th percentile

DID YOU KNOW?

Computer modeling is increasingly being used to inform policy in areas such as communicable disease, agriculture and land-use, natural resource management and chronic-disease prevention.

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