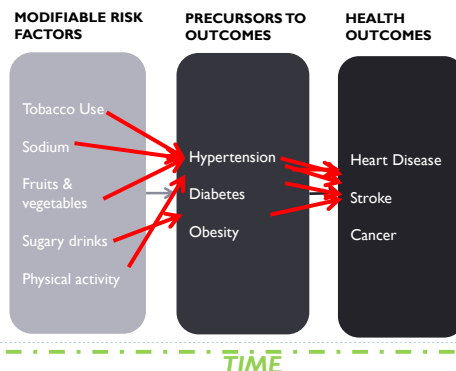


Determining density of unhealthy outdoor advertising in NYC by neighborhood poverty level: Methods and approaches

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Underlying Framework and Disease Pathways



Background: Advertising

Why look at advertising?

- ▶ Advertising has been well-documented to influence purchasing behavior
- ▶ Targeted marketing toward specific populations (communities of color; children) and environments (high-poverty areas), is well established

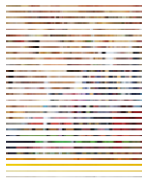
Background: Advertising

- ▶ Little research has been done on outdoor advertising of sugary drinks and unhealthy food, both in general and to targeted audiences
- ▶ Methods vary widely; to our knowledge no consensus on best practices
- ▶ No comprehensive study has been done in NYC to explore advertising for these harmful products

Sources:

- Lowery BD, Sloane DC. The prevalence of harmful content on outdoor advertising in Los Angeles: land use, community characteristics, and the spatial inequality of a public health nuisance. *Am J Public Health* 2014 Apr;104(4):658-64
- Lesser LI, Zimmerman FJ, and Cohen DA. Outdoor advertising, obesity, and soda consumption: a cross-sectional study. *BMC Public Health*. 13:20, 2013.
- Yancey CK, Cole BL, Brown R, et al. A cross-sectional prevalence study of ethnically targeted and general audience outdoor obesity-related advertising. *Milbank Q*. 87: 155-184, 2009.

Advertising Density



Community Marketing Study

Purpose:

To estimate the density of outdoor advertising for non-alcoholic beverages, food, tobacco and alcohol in NYC overall and by neighborhood poverty

By:

Collecting images of street-level advertising on 1,050 retail-dense blocks stratified by borough and by low-, medium-, and high-poverty neighborhoods, in summer of 2015

Community Marketing Study Methods and Approaches – Outline:

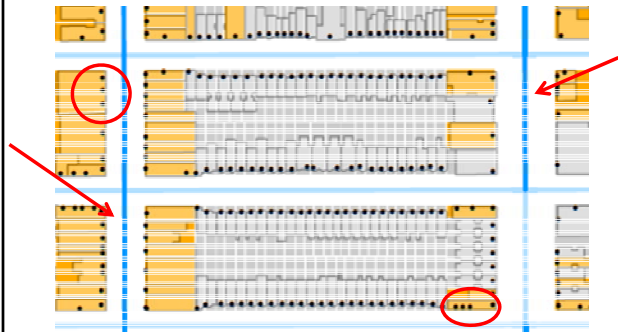
- I. Key Decisions:
 - i. Defining “Retail-Dense”
 - ii. Defining Neighborhood Poverty
- II. Sampling Frame
- III. Advertisements
- IV. Limitations & Strengths

Key Decisions: Defining “Retail-Dense”

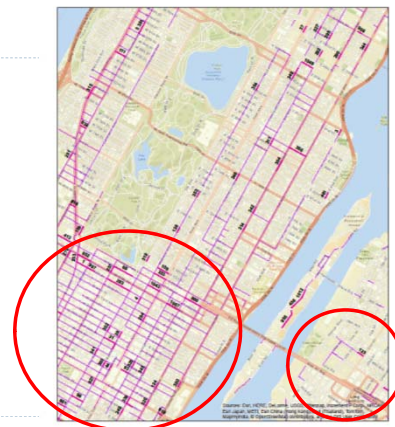
- ▶ Where should we collect data?
- ▶ How should we define “retail”?
- ▶ What should be our unit of data collection?
- ▶ What should be considered “retail-dense”?

Source:
Thihalolopavan S, Goranson C, Heller D. Alcohol advertising visible at the street level in retail-dense areas of NYC: A research report from the New York City Department of Health and Mental Hygiene (2011).

“Retail-dense” Street Segments



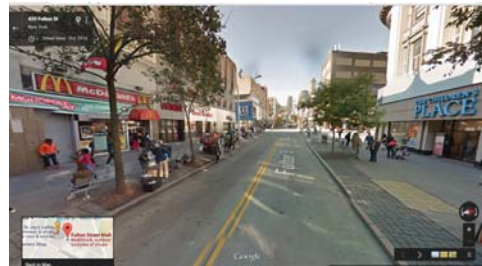
“Retail-dense” Street Segments



Retail Dense Examples in the Real World



Retail Dense Examples in the Real World



The Importance of Pre-testing!



Two address points on this segment, one of which is retail = 50% retail = "retail-dense" ?

More Decisions: Neighborhood Poverty

- Census tract data was used to determine poverty level for each street segment and categorize them at 3 levels
- Levels were based on the percent of residents living below the federal poverty threshold:
 - 1) Low poverty: <10% of residents
 - 2) Medium poverty: 10 - <20% of residents
 - 3) High poverty: 20% + of residents

Source:
Toprani A, Hadler JL. Selecting and Applying a Standard Area-based Socioeconomic Status Measure for Public Health Data: Analysis for New York City. New York. City Department of Health and Mental Hygiene. Epi Research Report, May 2013; 1-12.

Sampling Frame

- Target sample size was **1,050** street segments, stratified by borough and poverty group, for a total of 15 strata
 - 10% oversample if replacements were needed yielded 1,106 total in sample
- We randomly sampled street segments within each strata, setting a minimum of 50 street segments per strata
- Remaining segments were distributed into strata proportionally

Advertisements



Advertisements Defined

- Advertisements included in this study are street-level, stationary signs (posters, stickers, decals, etc.) that display a product with the intended purpose of promoting that product or type of product
- One ad is considered the discrete, physical unit of the poster, sticker, decal etc., even if it contains multiple images



Branded and non-branded advertisements

Branded



Non-branded



Includes logos with no product images, as long as not a logo for the establishment

Logos without product featured



Yes



Yes



No

No

No

Unless they are logos for an establishment located on that same establishment (e.g. "Subway" logo on a Subway restaurant)

Ads on Awnings



Ads on Stationary, Fixed Structures (not buildings)



Newsstand



Bus Shelter



Subway Entrance



Ice Bin



Pay Phone

Digital ads on subway entrances, etc.



Excludes...



Non-stationary ads



Food Carts



Vehicles



Sandwich Boards/
Freestanding Mobile Signs

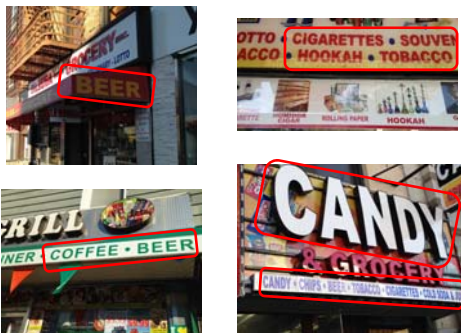
Symbols, words, logos for Store ID



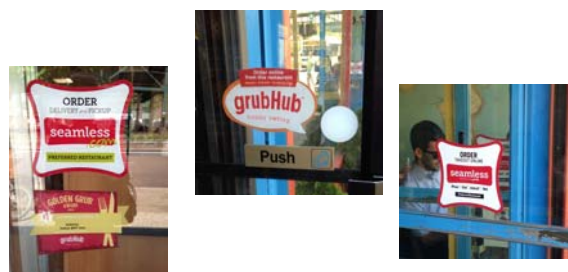
Shake Shack
Logo



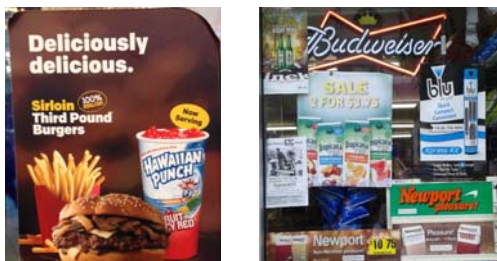
Signs that list products, no images



Logos for Restaurant-Affiliated Services, No Images of Food



Advertisement Coding



Advertisement Coding



Limitations

- All datasets that are used to define sample are not updated with the same frequency; some are likely to be outdated
- People don't live and work only in their own neighborhoods, they may be exposed to other advertisements wherever they travel
- Anything other than "street level" advertising was excluded
- Not capturing size of advertisements

Strengths

- Efficient approach to defining the retail environment
- Large sample size
- Ability to conduct citywide analyses, as well as comparisons between neighborhood poverty levels
- Inclusion of a range of unhealthy products featured in advertising content (food/beverage, alcohol, tobacco)

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