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# Alcohol at the POS: Places, Promotions, and Problems

Counter Tools' Healthy POS Webinar Series

**June 17, 2021**

**Speaker:** Dr. Pamela Trangenstein, PhD, Assistant Professor, Department of Health Behavior, UNC-Chapel Hill Gillings School of Global Public Health

**Moderator:** Jackie Boards, Project Director, Counter Tools



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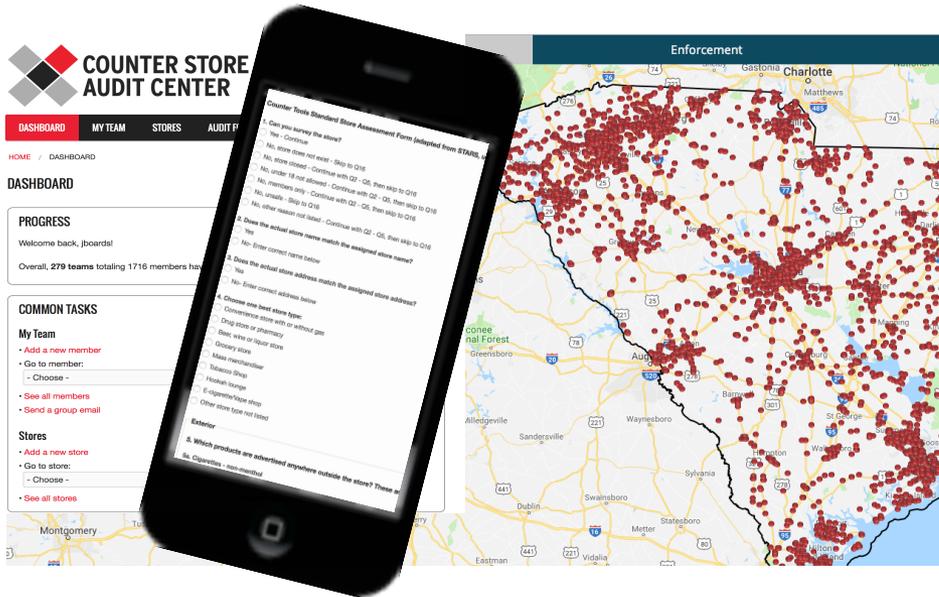
Counter Tools is a non-profit organization. Our vision is a nation where healthy living is equitable across communities and every person has access to healthful choices.



# What We Do

We work with our partners to advance place-based public health and health equity through policy, systems and environmental changes.

- Consulting
- Training
- Storytelling
- Providing Tech Tools
- Supporting Advocacy Efforts
- Disseminating Science and Best Practices



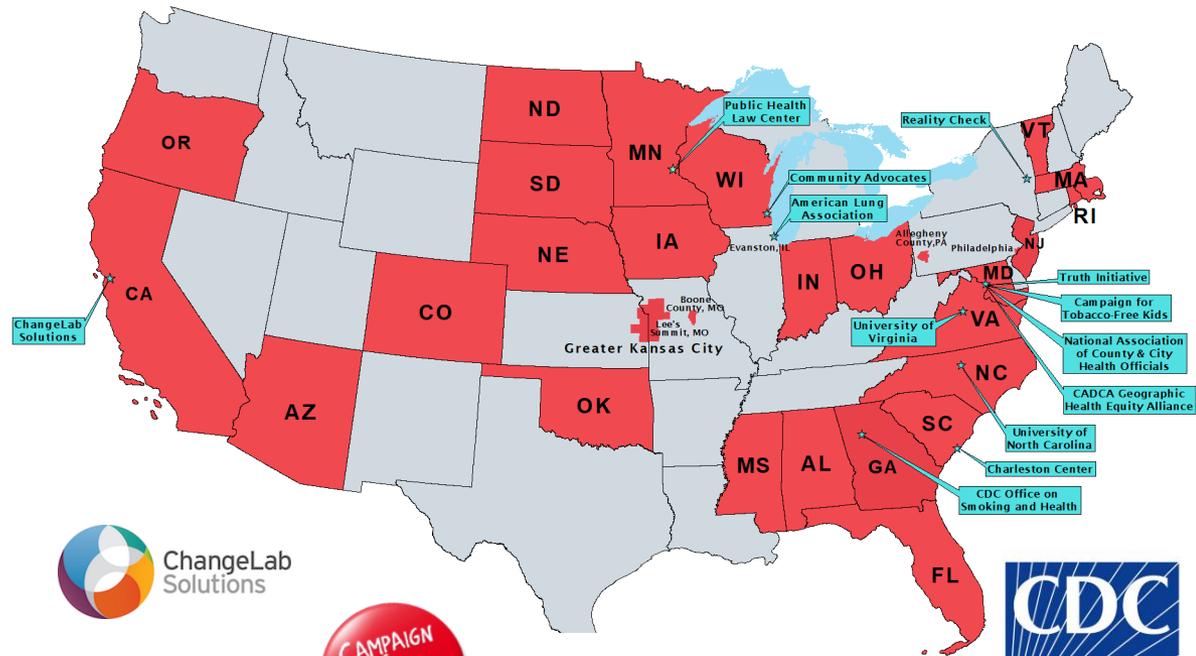
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[www.cowntobacco.org](http://www.cowntobacco.org)



# Who We Are

## Our Team



THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL



National Partners/Clients (past and present)



# Equity, Diversity, and Inclusion

Counter Tools recognizes that not every individual or community has equal access to healthy spaces and opportunities. Structural elements, including institutional racism, along with industry targeting impact exposure, availability, and access to both healthy and harmful products.

We define health equity to mean that everyone has a fair and just opportunity to be as healthy as they can be, which means reducing and removing structural barriers and obstacles that apply to and extend beyond the retail environment.



We commit to working alongside our partners towards a more equitable world by addressing equity, diversity, and inclusion in our trainings, providing resources and consultation, sharing relevant data, and supporting advocacy efforts.

Read our full [stance on equity, diversity, and inclusion](#) on our website.



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## Alcohol at the point of sale: Places, promotions, & problems

Pamela Trangenstein  
July 17, 2021

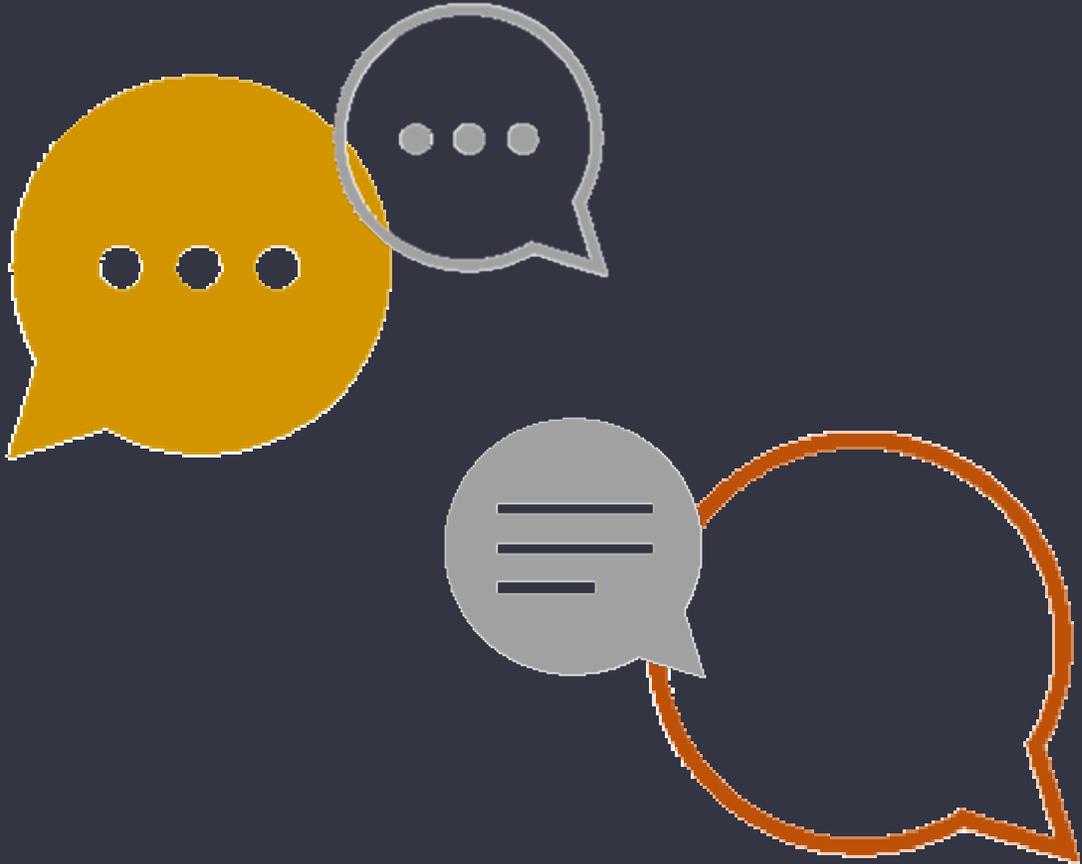


**ALCOHOL**  
**IS NOT AN ORDINARY COMMODITY.**

**ALCOHOL OUTLETS  
ARE NOT ORDINARY BUSINESSES.**



# Your thoughts on alcohol outlets...



# Roadmap



**Prologue:** Overview & differences between alcohol & other drugs



**Places:** Environmental justice issues in alcohol outlet density



**Promotions:** Ads & violence



**Problems:** Harms associated with alcohol outlets



**Policies:** Solutions that mitigate these problems

# Alcohol outlet density



Alcohol outlet density is the number of stores in an area that sell alcohol and the distances between them

**“When the density of alcohol outlets is high or increases, the level of alcohol use is correspondingly high or increases, and excessive consumption and its diverse related harms occur.”**

**- Task Force on Community Preventive Services**

Campbell, Carla Alexia, Robert A. Hahn, Randy Elder, Robert Brewer, Sajal Chattopadhyay, Jonathan Fielding, Timothy S. Naimi et al. "The effectiveness of limiting alcohol outlet density as a means of reducing excessive alcohol consumption and alcohol-related harms." *American Journal of Preventive Medicine* 37, no. 6 (2009): 556-569.

# Cities with studies linking alcohol outlets to harms



Prologue

Places

Promotions

Problems

Policies

**How are alcohol outlets different from other businesses that sell commercial determinants of health?**



# Like tobacco, food, & cannabis: Harms from consumption



Stockwell, T. and P. Gruenewald, *Controls on the physical availability of alcohol*. The essential handbook of treatment and prevention of alcohol problems, 2004: p. 213-234.

Prologue

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# Unlike tobacco & food: Acute intoxication & related harms

## Harms to self



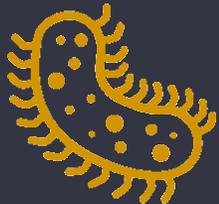
Violence



Traffic crashes



Suicide



Gonorrhea



Pedestrian injuries



Crime

## Harms to others



Public intoxication



Public urination



Property damage



Litter

Jewell R, Brown R. Alcohol availability and alcohol-related motor vehicle accidents. *Applied Economics* 1995;27:759-65.

Cohen D, Ghosh-Dastidar B, Scribner R. Alcohol outlets, gonorrhea, and the Los Angeles civil unrest. *Soc Sci Med* 2006;62(3062):3071.

LaScala E, Gerber D, Gruenewald PJ. Demographic and environmental correlates of pedestrian injury collisions: a spatial analysis. *Accident Analysis & Prevention* 2000;32(651-658).

Livingston M. Alcohol outlet density and harm: Comparing the impacts on violence and chronic harms. *Drug and alcohol review* 2011;30:515-23.

Snowden, A. and T. Freiburger, *Alcohol outlets, social disorganization, and robberies: Accounting for neighborhood characteristics and alcohol outlet types*. *Social science research*, 2015. 51: p. 145-162.

Wilkinson, C., & Livingston, M. (2012). Distances to on-and off-premise alcohol outlets and experiences of alcohol-related amenity problems. *Drug and alcohol review*, 31(4), 394-401.

# Unlike tobacco & cannabis\*: Harms from bringing patrons together

Crime occurs in times and locales where motivated offenders are in close proximity to susceptible targets and supervision is low.



Felson, M. and M. Eckert, *Crime and Everyday Life*. 2016, Thousand Oaks, CA: Sage Publications, Inc.  
Felson, M., *Crime and nature*. 1st ed. 2006, Thousand Oaks, CA: SAGE Publications.

Bars release a stream of intoxicated patrons at closing time.  
Alcohol outlets bring together people who may not otherwise interact.



Prologue

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Policies

## Common thread: Environmental injustices

Alcohol outlets tend to cluster in historically disinvested neighborhoods....



....even though populations drink less than their more advantaged counterparts.

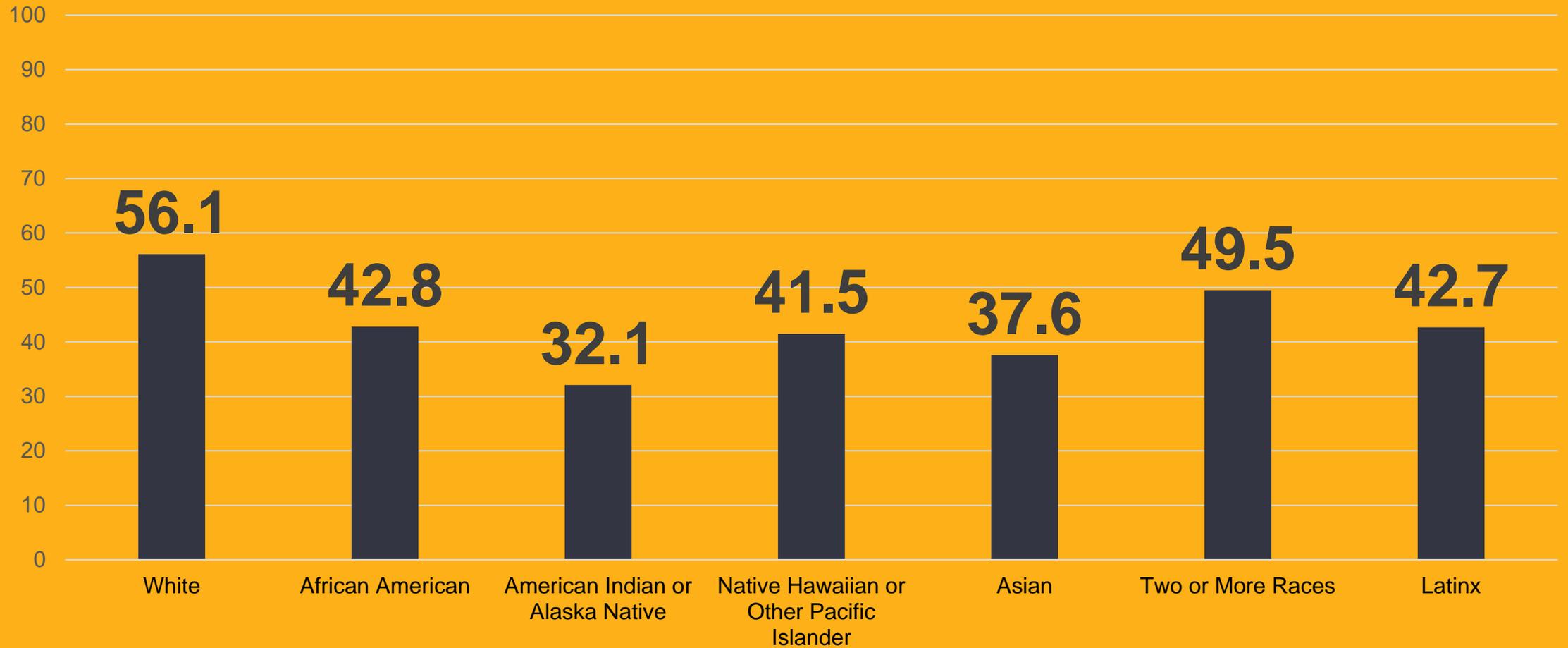
LaVeist, T.A. and J.M. Wallace, Jr., Health risk and inequitable distribution of liquor stores in African American neighborhood. *Soc Sci Med*, 2000. 51(4): p. 613-7.

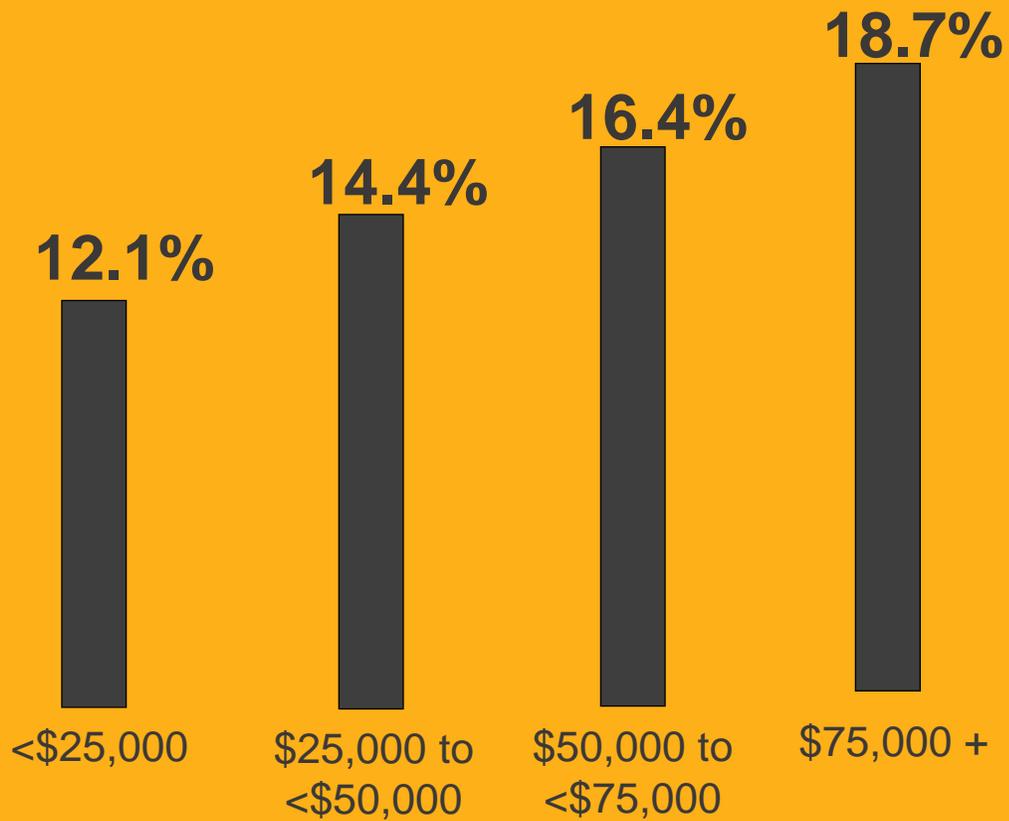
Romley, J.A., et al., Alcohol and environmental justice: the density of liquor stores and bars in urban neighborhoods in the United States. *Journal of studies on alcohol and drugs*, 2007. 68(1): p. 48-55.

Morrison, C., P.J. Gruenewald, and W.R. Ponicki, Race, ethnicity, and exposure to alcohol outlets. *Journal of studies on alcohol and drugs*, 2016. 77(1): p. 68-76. 13

# A quick aside

## A larger percent of White people drink (vs. other racial groups)





**Binge drinking prevalence increases as income increases.**



**Binge drinking intensity increases as income decreases.**

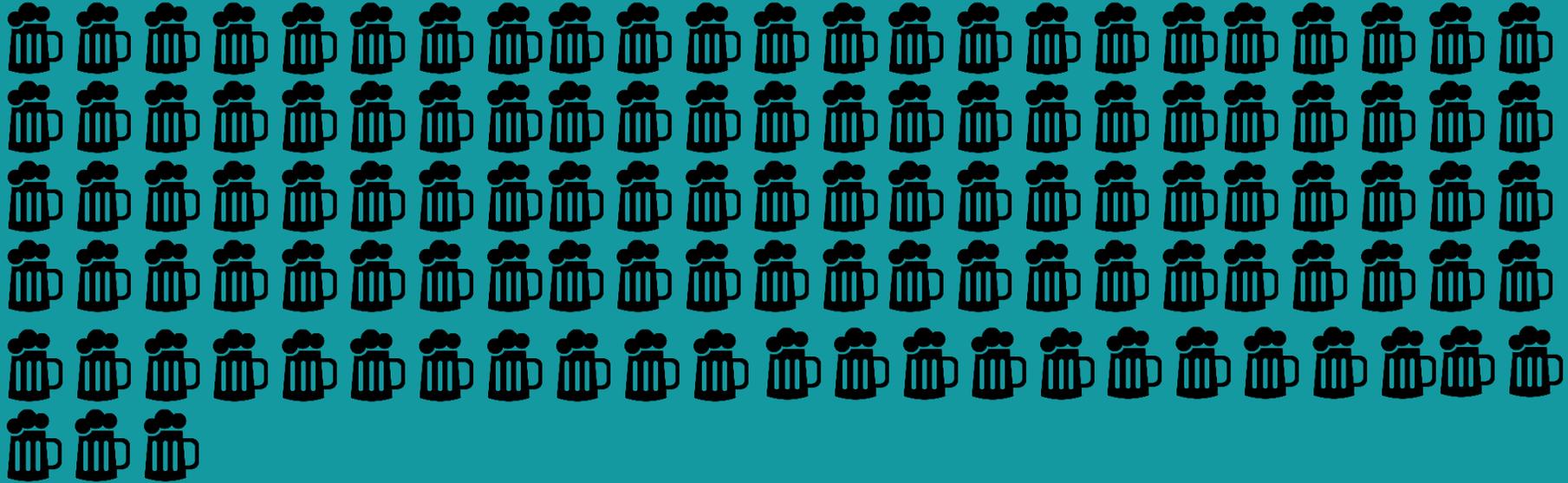
# A case study in Baltimore, MD



# Too Many Outlets in Too Little Space, Baltimore 2016

ALCOHOL OUTLETS

1,218



MCDONALDS

184



LIBRARIES

131



SUPERMARKETS

43



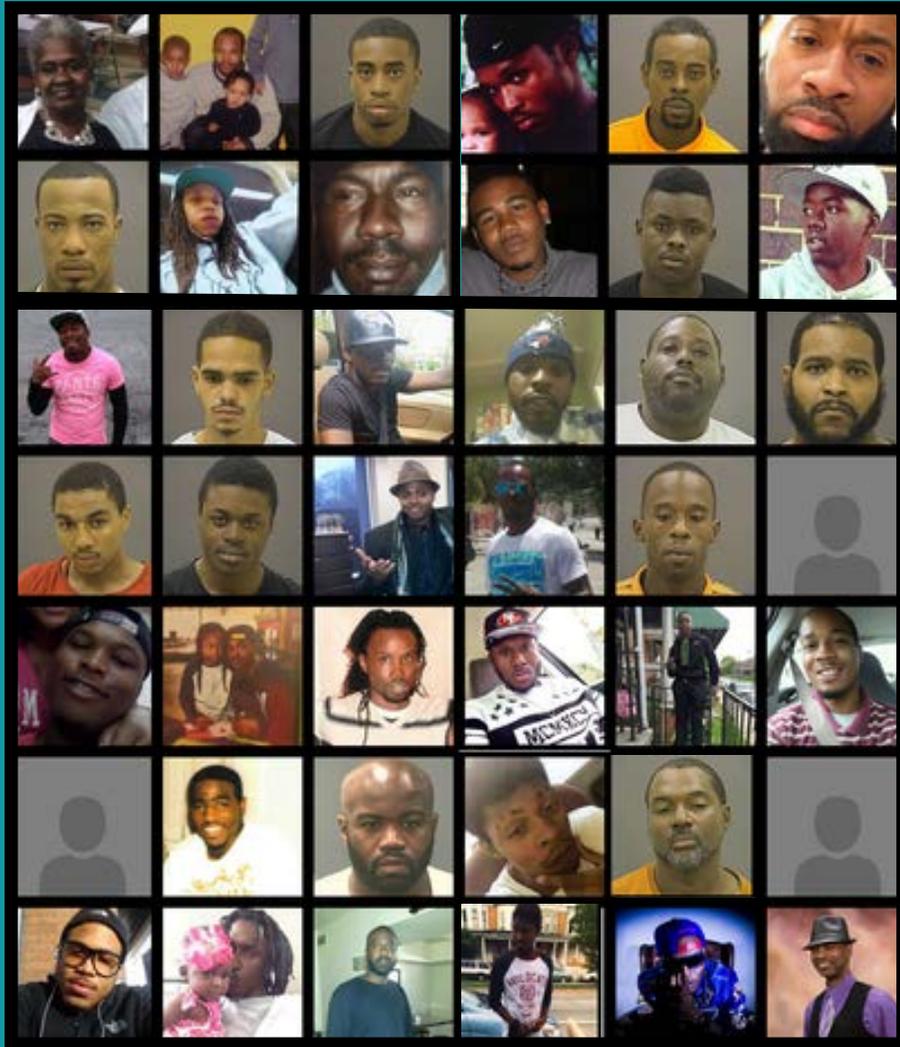
Prologue

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In 2016, **91%** of homicide victims were Black even though Black people only comprised **67%** of the population.

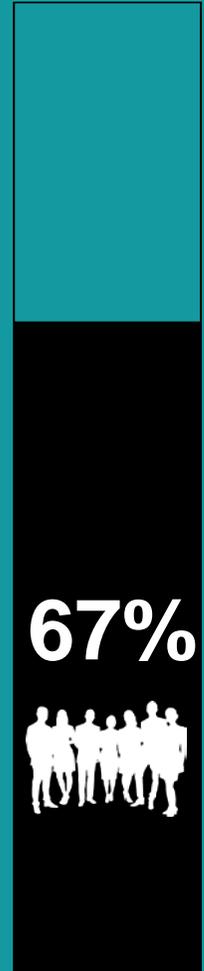


Image source: Fenton, J. , Collins, M., & Jedra, C. (2015). 45 murders in 31 days The victims of July violence. The Baltimore Sun. Available at : <https://www.baltimoresun.com/news/maryland/investigations/bal-remembering-the-victims-of-homicides-in-july-20150827-htmlstory.html>



## Challenge

Understand the role of unjust historical housing policies in the distribution of alcohol outlets



## Exposures

Redlining (see next slide), gentrification, and neighborhood White flight



## Location

Baltimore, MD

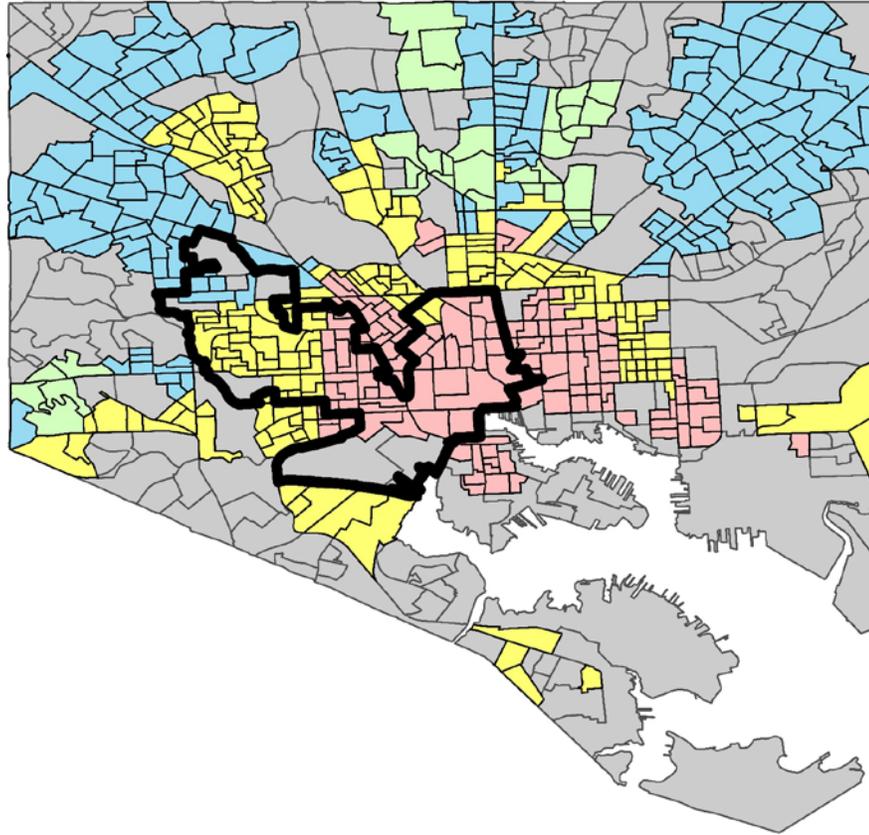
# Home Owner's Loan Corporation and redlining

During the 1930's, HOLC sent raters across the country to classify neighborhoods according to perceived lending risk. They systematically rated areas where people of color lived as hazardous, which was colored red, hence "redlining."

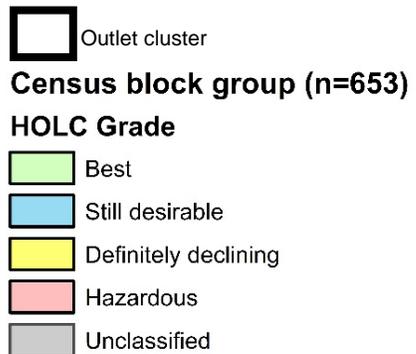
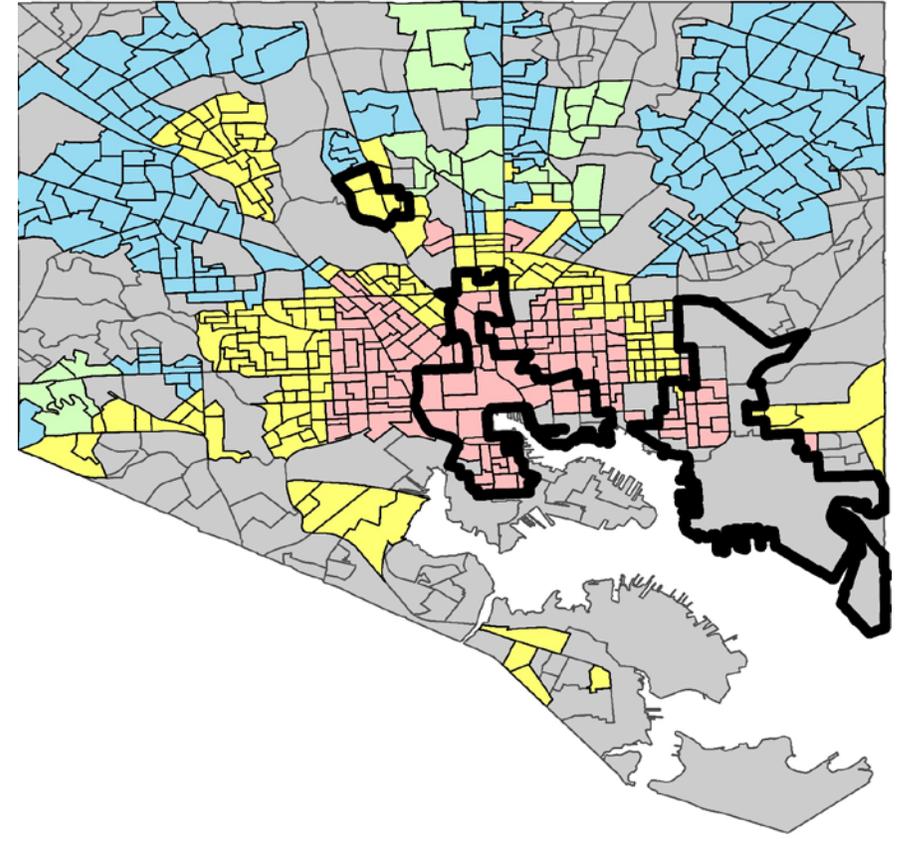


# Alcohol outlet clustering and redlining in Baltimore, MD

Take-away alcohol stores



Bars and restaurants



Trangenstein, P. J., Gray, C., Rossheim, M. E., Sadler, R., & Jernigan, D. H. (2020). Alcohol outlet clusters and population disparities. *Journal of urban health*, 97(1), 123-136.

## Key messages

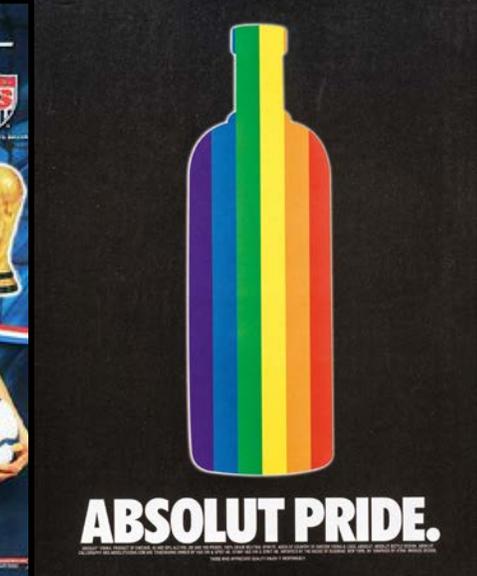
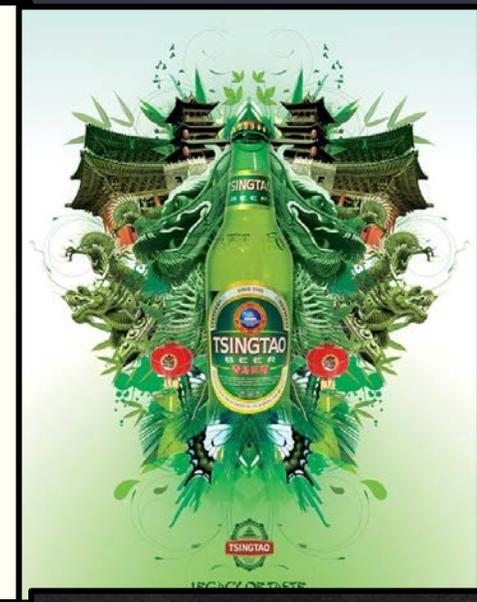
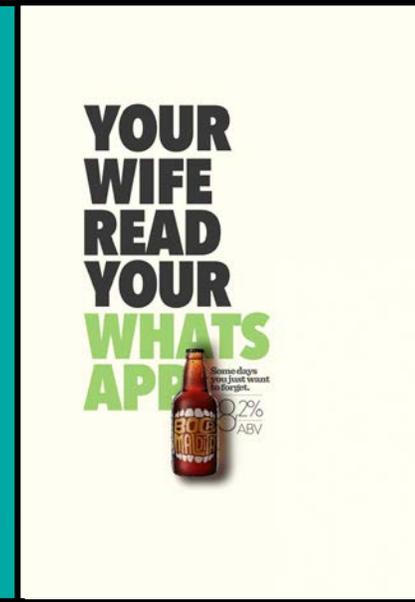
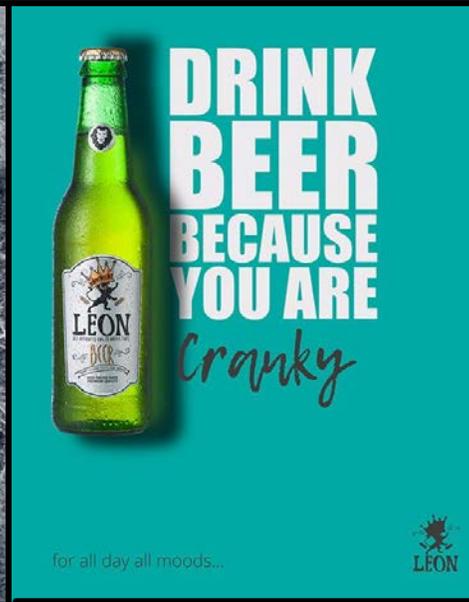
- Redlining was the most robust predictor of where alcohol outlets clustered eight decades later.
- There has been a tendency to blame neighborhoods and people who live in those neighborhoods for the high prevalence of harms that they face, ignoring the historical disinvestment and root causes of those harms.
- As jurisdictions consider how to mitigate these injustices, they should avoid repeating mistakes.

**Why does this matter?**

**In short: the outlets' promotions & problems**



# Advertising is designed to sell products.



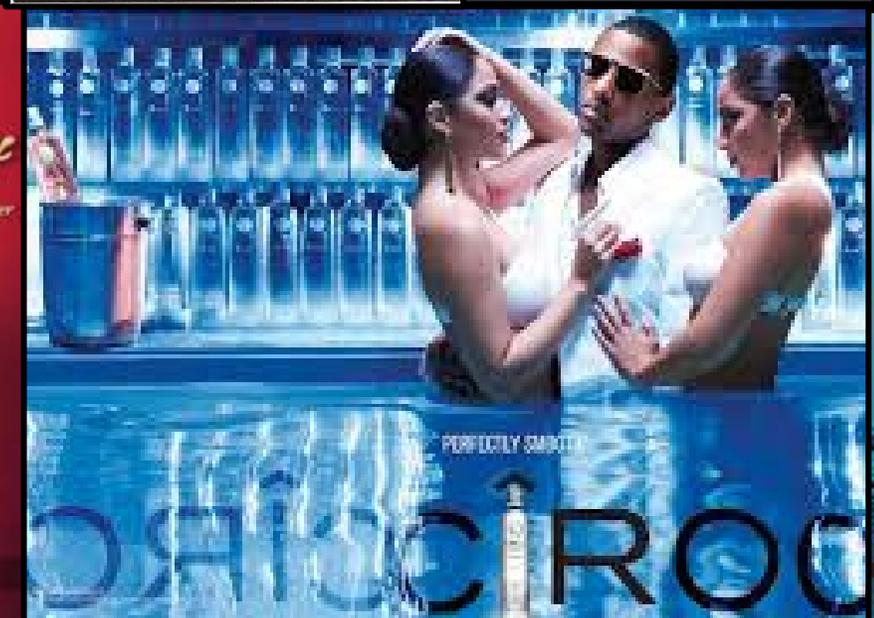
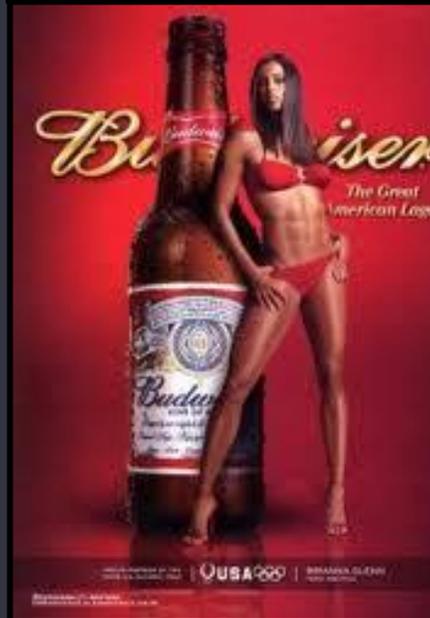
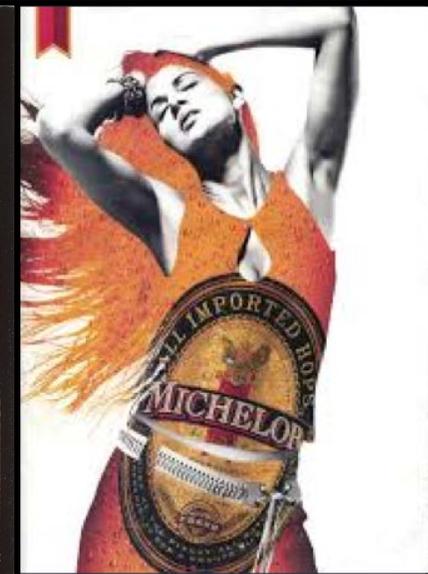
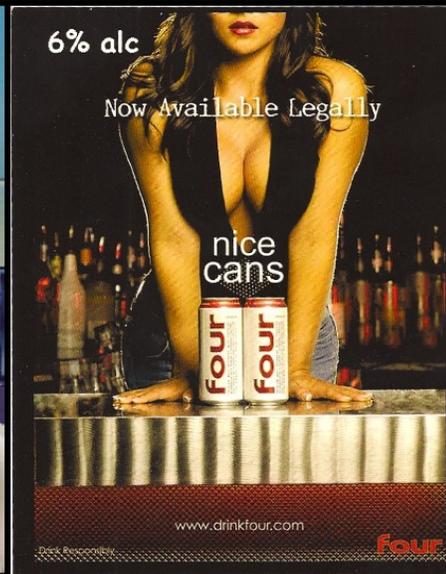
Anderson P, de Bruijn A, Angus K, Gordon R, Hastings G. Impact of alcohol advertising and media exposure on adolescent alcohol use: a systematic review of longitudinal studies. Alcohol Alcohol. 2009;44(3):229–243. <https://doi.org/10.1093/alcalc/aqn115>.  
Jernigan D, Noel J, Landon J, Thornton N, Lobstein T. Alcohol marketing and youth alcohol consumption: a systematic review of longitudinal studies published since 2008. Addiction. 2017;112(S1): 7–20. <https://doi.org/10.1111/add.13591>.



**Ads with price discounting may increase consumption and/or violence.**

Wagenaar AC, Salois MJ, Komro KA. Effects of beverage alcohol price and tax levels on drinking: a meta-analysis of 1003 estimates from 112 studies. *Addiction*. 2009;104(2):179–190. <https://doi.org/10.1111/j.1360-0443.2008.02438.x>.  
Quigley BM, Leonard KE, Collins RL. Characteristics of violent bars and bar patrons. *J Stud Alcohol*. 2003;64(6):765–772. <https://doi.org/10.15288/jsa.2003.64.765>.

Ads that sexualize women may normalize gender power imbalances and contribute to violence against women.



Prologue

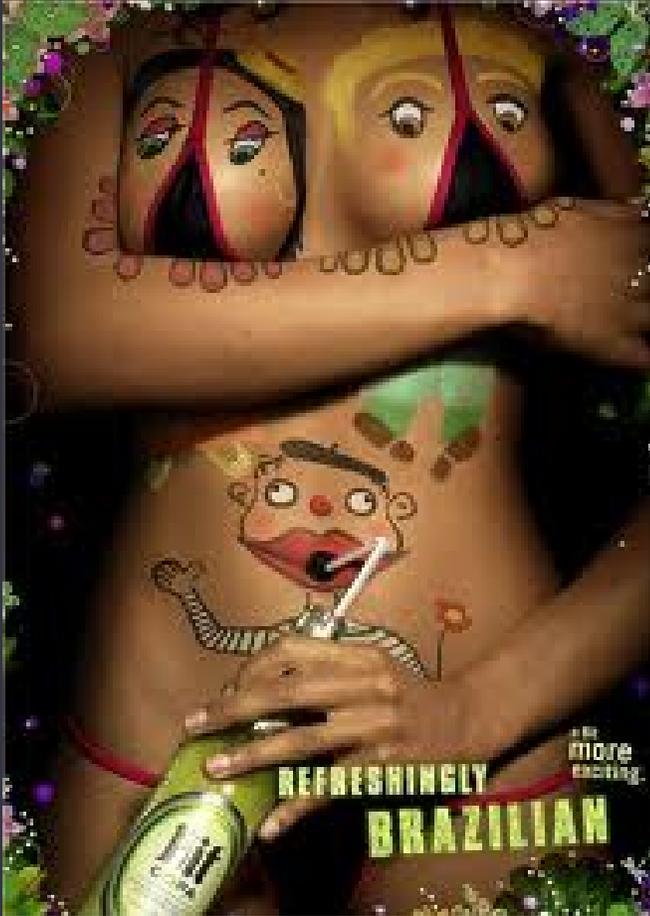
Places

Promotions

Problems

Policies

# Previous research



## Challenge

Understand the role of the density of alcohol ads featuring Latinas, controlling for outlet density



## Location

San Jose, CA



## Findings

“Results of these analyses are supportive of the notion that advertising content plays a detectable role in sexual violence.”

Parker, R. N., McCaffree, K., Alaniz, M., & Cartmill, R. (2013). Sexual violence, alcohol, and advertising. *Alcohol and violence: The nature of the relationship and the promise of prevention*, 39-60.

# Methods

1



2



3



## Kernel densities

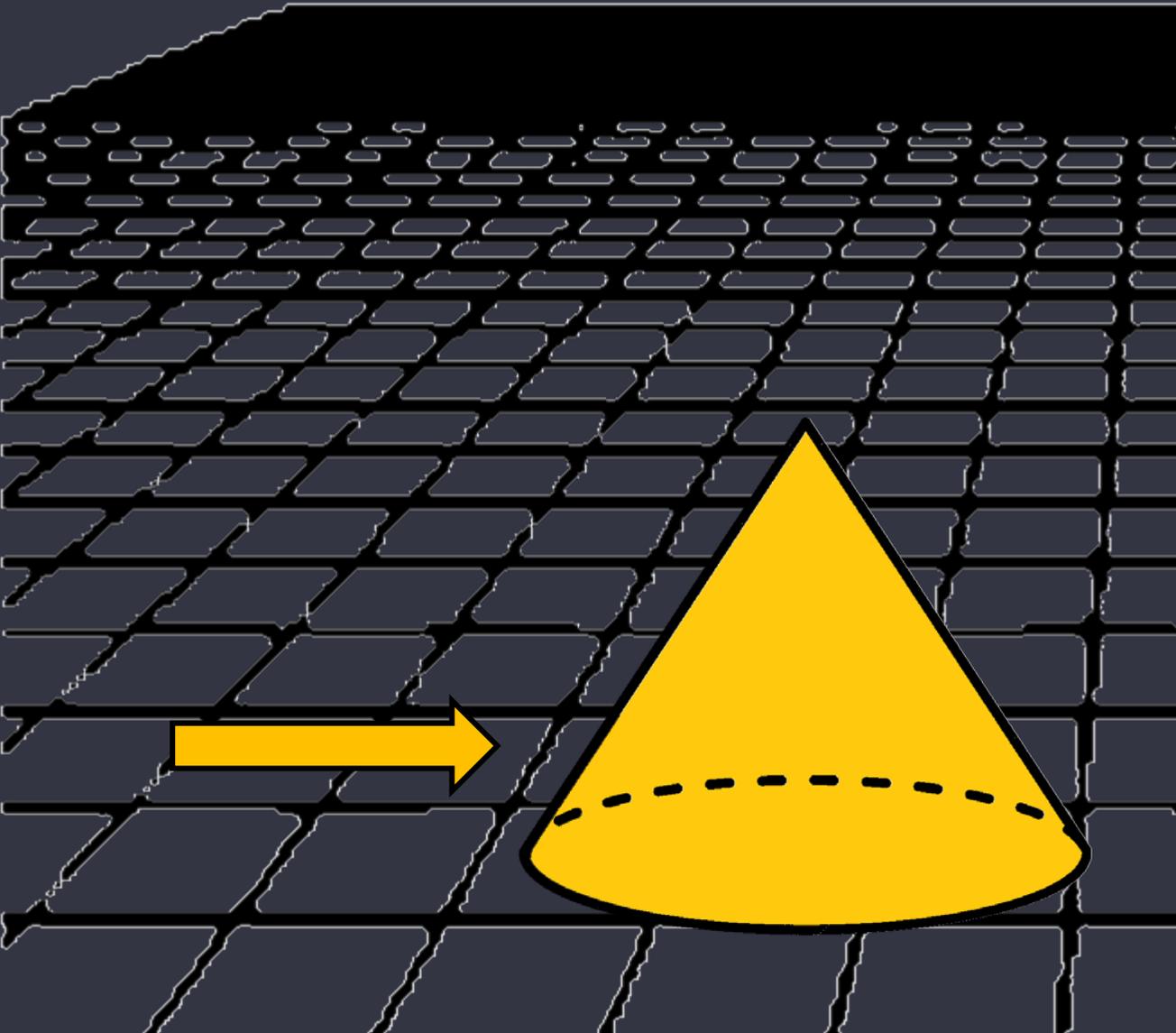
## Random effects models

- Robust standard errors
- Benjamini-Hochberg multiple testing correction

## Regression diagnostics

- Collinearity
- Constant multiplicative assumption
- Moran's index
- Leverage, influence

# Kernel density explained



1. Divide the area into a fine grid
2. Move a cone over the grid
3. In each cell, calculate the number of points, weighting points closer to the center of the cone more heavily than those toward the edge

Prologue

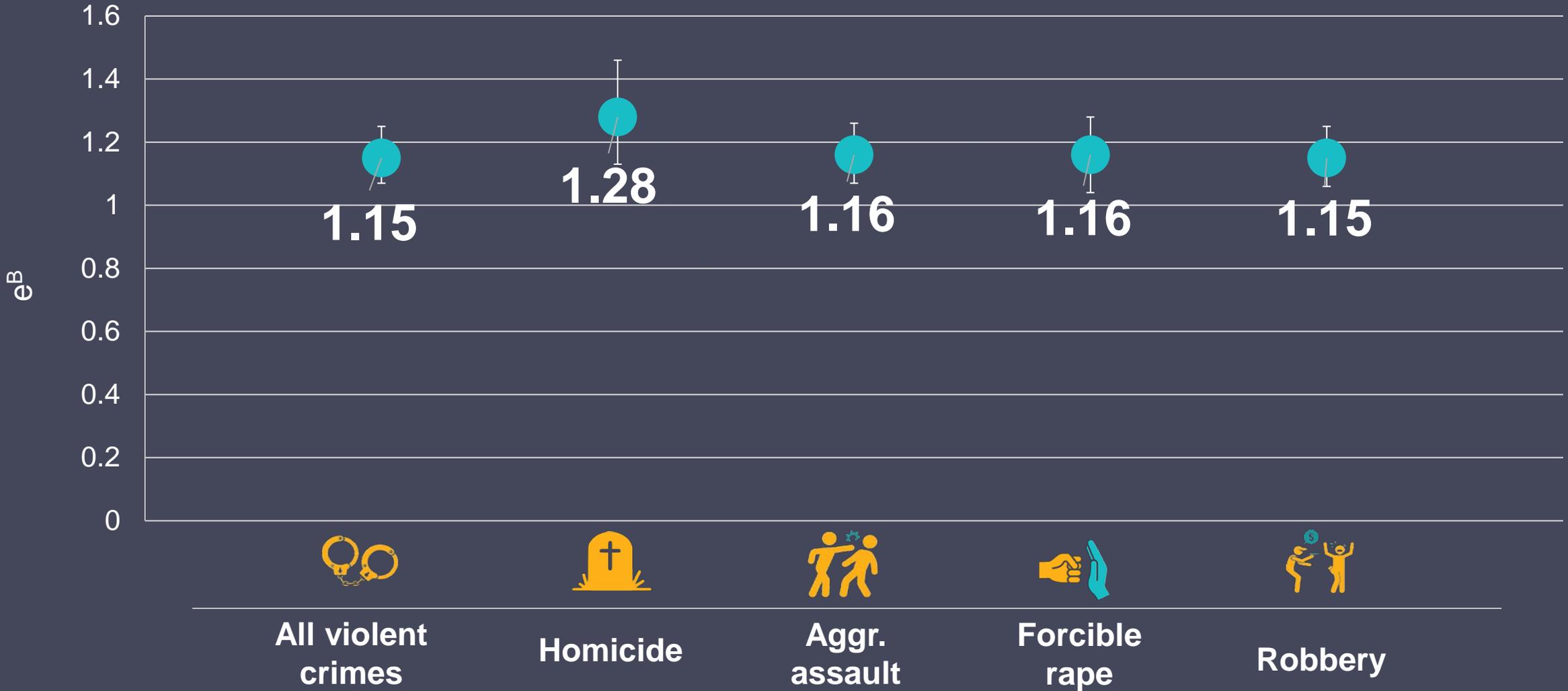
Places

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# Alcohol outlets with ads visible from the street



Prologue

Places

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## Well, what about...

1. Was it just the context?
2. Are outlets with ads just in “bad” neighborhoods?
3. Would we see these associations with any kinds of ads? What’s so special about alcohol, anyways?





**What about the outlets themselves?  
Do different types of outlets pose  
different risks to communities?**

# Previous Research – 2014 Study using 2010 Data

Each additional alcohol outlet in a census tract in Baltimore is associated with increased violent crime.



3.1%



4.8%

Jennings, J. M., Milam, A. J., Greiner, A., Furr-Holden, C. D. M., Curriero, F. C., & Thornton, R. J. (2014). Neighborhood alcohol outlets and the association with violent crime in one mid-Atlantic City: the implications for zoning policy. *Journal of Urban Health*, 91(1), 62-71.



## Challenge

Assess whether specific types of alcohol outlets are associated with specific types of violent crime



## Exposure

Alcohol outlet density by type



## What's new?

The measurement methods allowed us to pinpoint spatial associations (see paper)

# Outlet Types

## On-Premise Outlets

Bars, Restaurants

519

7 days  
6 AM – 2 AM



## Off-Premise Outlets

Liquor Stores

264

6 days  
6 AM – 12 AM



## LBD-7 Outlets

Bar/Taverns

Both on and off premise

421

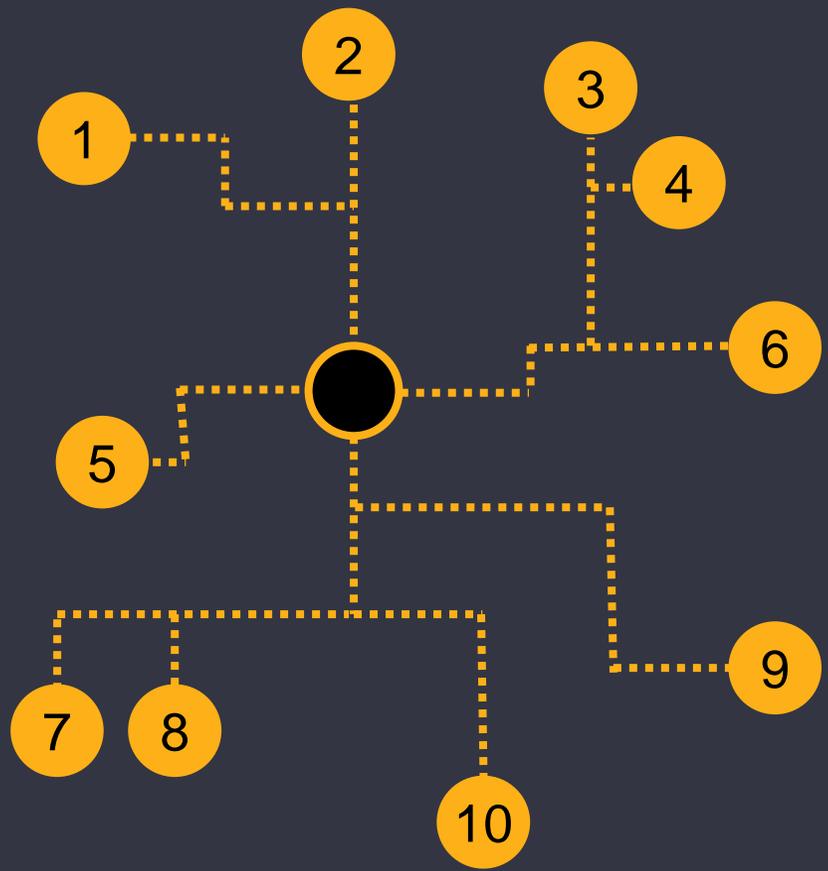
7 days  
6 AM – 2 AM



# Alcohol Outlet Access Variables

## IDW Counts

10 closest outlets



1

Total



2

On-Premise



3

Off-Premise



4

LBD-7



Prologue

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# Demographic Control Variables

Drug Arrests



2016  
Count  
Log-transformed

Percent African-American



2016  
3-Year Average

Percent Owner-Occupied Housing



2016  
3-Year Average

Annual Household Income



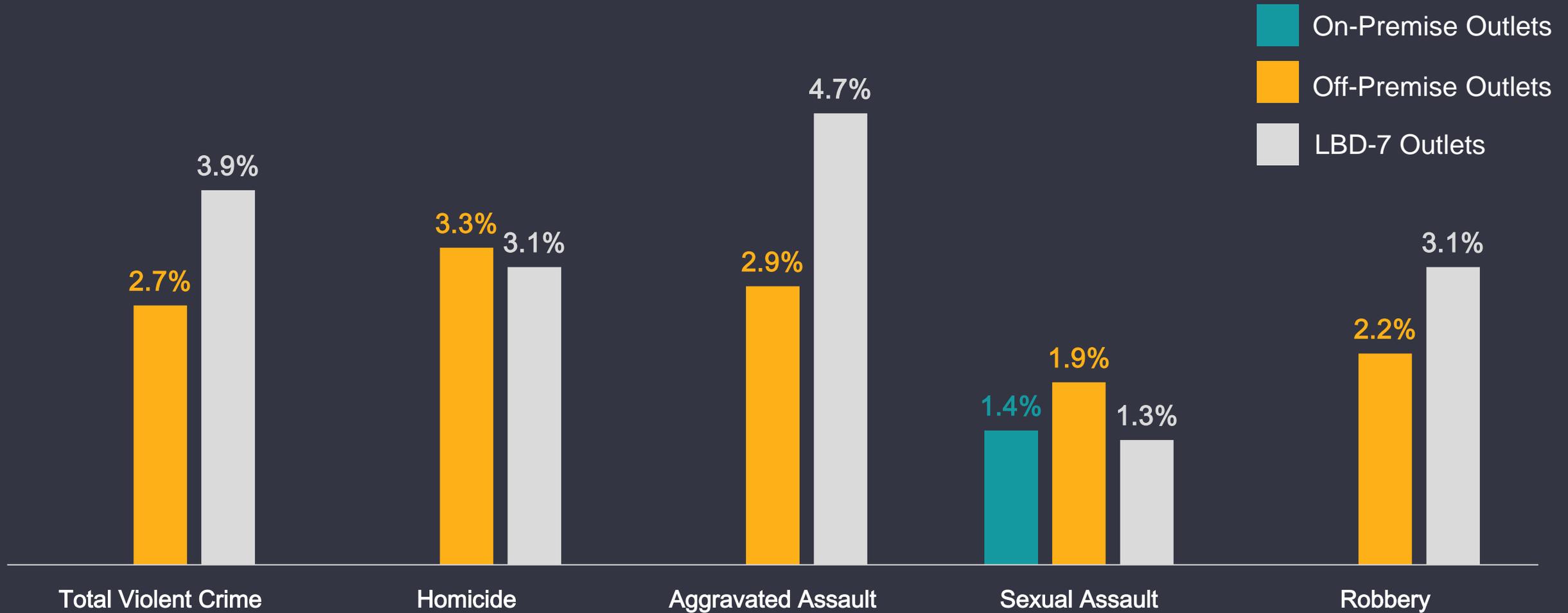
2016  
3-Year Average  
Median

Population Density



2016

# Percent Increase in Exposure to Violence with 10% Increase in Outlet Density



Prologue

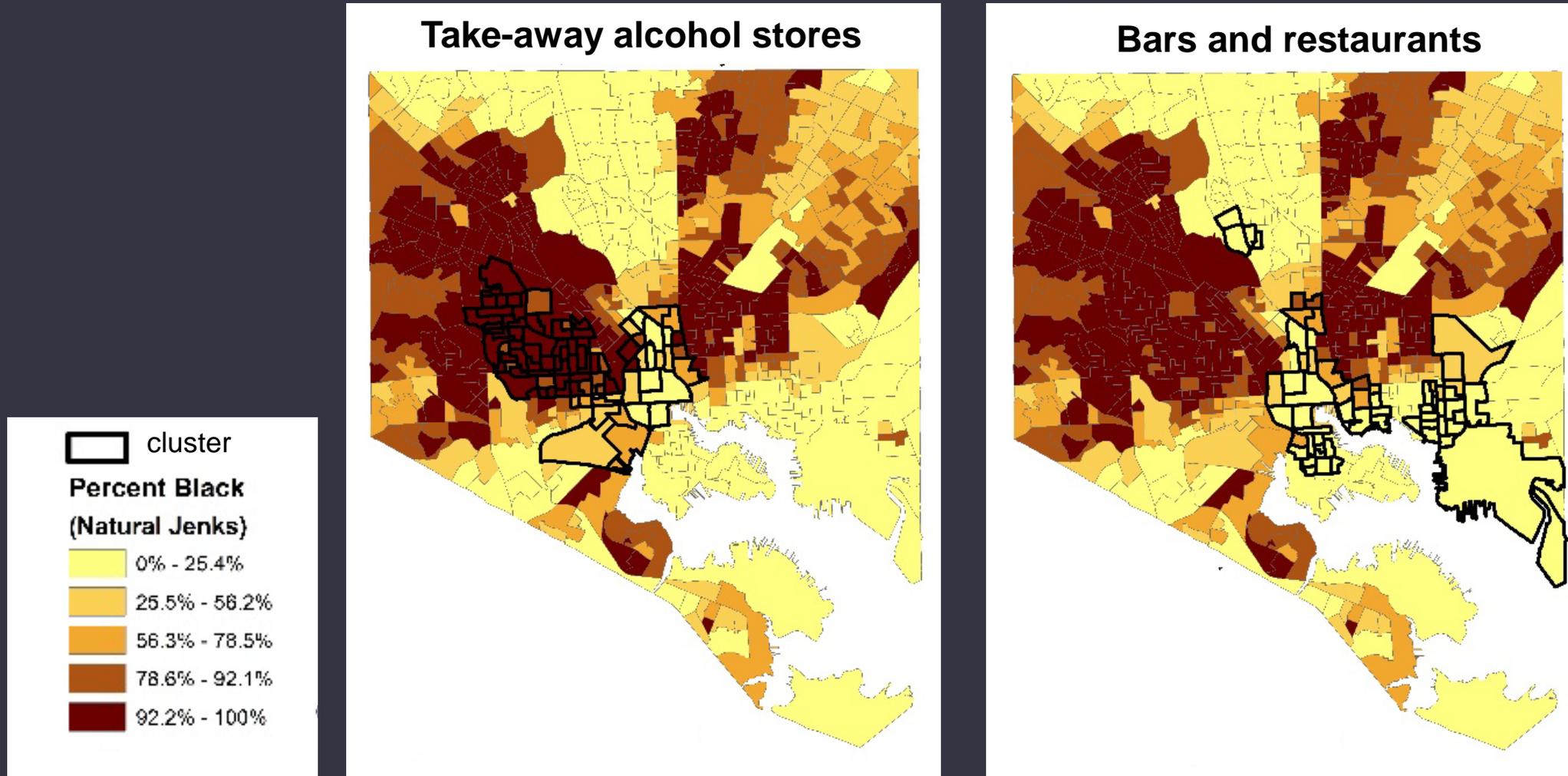
Places

Promotions

**Problems**

Policies

# Alcohol outlet clusters and percent of pop. who is Black



Trangenstein, PJ, Gray, C, Sadler, R, Rossheim ME, & Jernigan, DH. (2020) Alcohol outlet clusters and population disparities. *Journal of Urban Health*, 1-14. doi 10.1007/s11524-019-00372-2.

# Reproducing inequities



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**This process deters pro-social businesses from moving in and revitalizing neighborhoods.**

---

A close-up, profile view of a young child's face, looking towards the left. The child has light blue eyes and a single tear is visible on their right cheek. The lighting is soft, highlighting the texture of their skin and the intensity of their gaze.

**Should we  
give up hope?**

**No!**  
**...we still have  
one more "P"**

# Alcohol policies

- The laws, regulations, and practices designed to reduce excessive alcohol consumption and its related harms
- Alcohol policies are modifiable; some are inexpensive to implement, require no regular maintenance, and can save or raise money
- A number of policies have strong and consistent evidence base demonstrating effectiveness at reducing adult excessive drinking, youth drinking, or both

Most Effective Alcohol Policies
1. Taxes
2. State Control (Monopoly)
3. Outlet Density Restrictions
4. Wholesale Price Restrictions
5. Retail Price Restrictions
6. Alcohol Beverage Control Agencies
7. Dram Shop Liability
8. Hours of Sales Restrictions
9. Sales or Service to Intoxicated Patrons Prohibited
10. Social Host Laws

Nelson, T. F., Xuan, Z., Babor, T. F., Brewer, R. D., Chaloupka, F. J., Gruenewald, P. J., ... & Reynolds, R. (2013). Efficacy and the strength of evidence of US alcohol control policies. *American journal of preventive medicine*, 45(1), 19-28.

# A brief history of alcohol outlet zoning in Baltimore City

1971

## ZONING REWRITE

Baltimore City zoning rewrite to prohibit liquor stores from opening in residential neighborhoods. The current stores stayed.

1968

## MORATORIUM ON LIQUOR LICENSES

Baltimore City can not issue any new liquor licenses so long as there is more than 1 license per every 1,000 residents.

1980s

## POPULATION DECLINE

From 1970 to 1980, Baltimore's population declined from 906,000 to 787,000 people.

2008

## TRANSFORM BALTIMORE

Transform Baltimore is the first comprehensive zoning code rewrite in 40 years.

Prologue

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# Objective

This study compared four policy options to reduce alcohol outlet density.

1

Reduce alcohol outlet  
access to the city  
median

2

Close liquor stores in  
residential zones

*80 outlets*

3

Close “sham”  
bars/taverns

*117 outlets*

4

Close both the non-  
conforming liquor  
stores and the “sham”  
bars/taverns

*197 outlets*

# “Sham” bar/taverns



TransForm Baltimore definition of “sham” bar/tavern:

- Less than 50% of floor space devoted to on-site consumption
- On-premise sales comprise less than 50% of daily sales

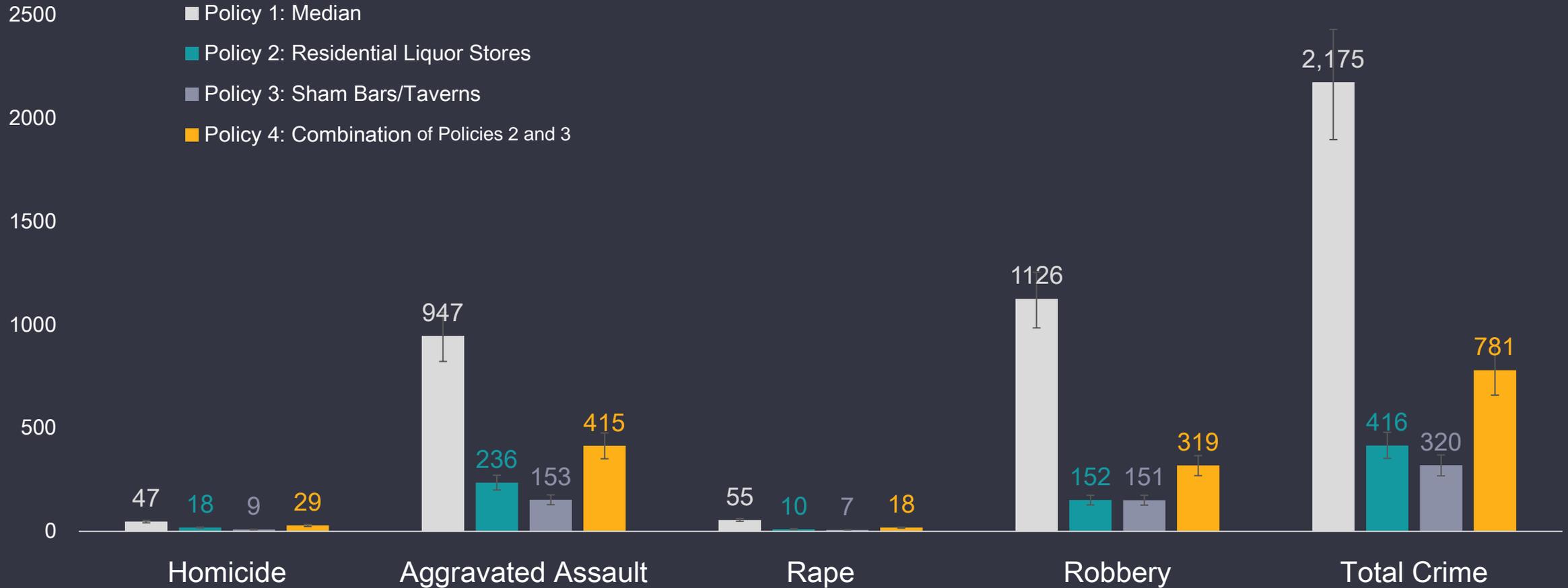
*“Sham” bar/taverns are essentially extended hours liquor stores.*

# Non-conforming liquor stores

Non-conforming liquor stores are off-premise stores located in an area that is zoned as residential.



# Number of crimes prevented by policy



Trangenstein, P. J., Eck, R. H., Lu, Y., Webster, D., Jennings, J. M., Latkin, C., ... & Jernigan, D. H. (2020). The violence prevention potential of reducing alcohol outlet access in Baltimore, Maryland. *Journal of studies on alcohol and drugs*, 81(1), 24-33.

Prologue

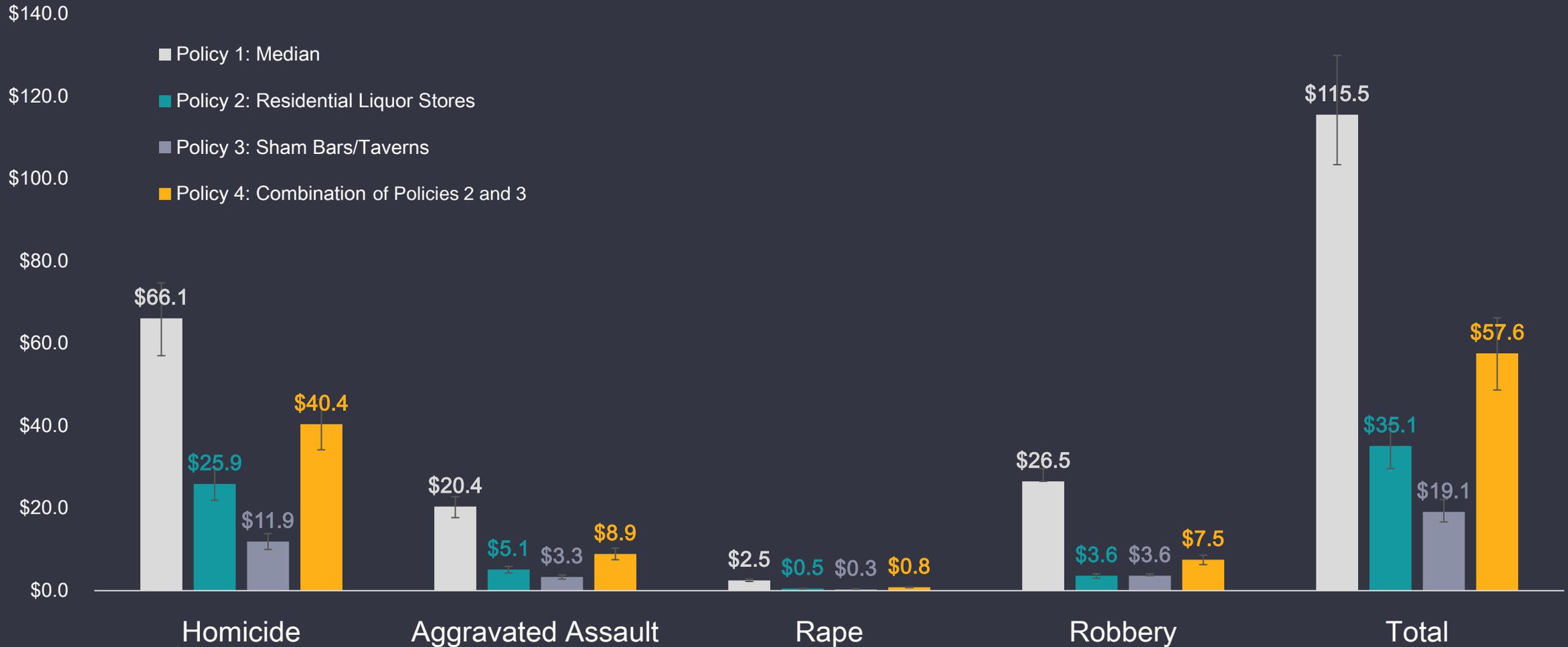
Places

Promotions

Problems

**Policies**

# Costs saved (in millions) by policy

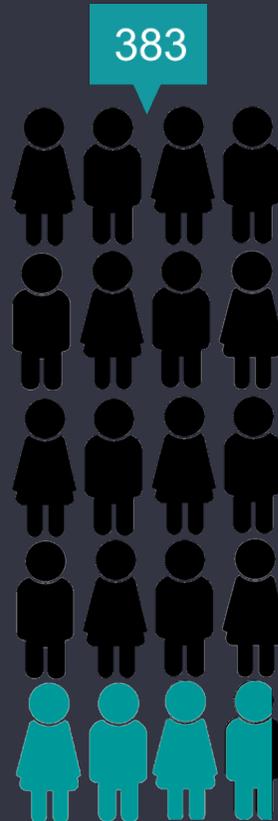


Trangenstein, P. J., Eck, R. H., Lu, Y., Webster, D., Jennings, J. M., Latkin, C., ... & Jernigan, D. H. (2020). The violence prevention potential of reducing alcohol outlet access in Baltimore, Maryland. *Journal of studies on alcohol and drugs*, 81(1), 24-33.

# Quality-adjusted life years saved by policy



Median



Liquor stores in residential zones



"Sham" bars/taverns



Liquor stores in residential zones & "sham" bars/taverns

Trangenstein, P. J., Eck, R. H., Lu, Y., Webster, D., Jennings, J. M., Latkin, C., ... & Jernigan, D. H. (2020). The violence prevention potential of reducing alcohol outlet access in Baltimore, Maryland. *Journal of studies on alcohol and drugs*, 81(1), 24-33.

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# Key messages



1

Reducing alcohol outlet density can decrease excessive alcohol consumption & related harms.



2

Alcohol outlet zoning has the potential to reduce violent crime.



3

Cost-effectiveness analysis is a research tool that can be used to inform policy debates.



4

Limited approaches to regulating outlet density may not have sufficient impact to address disparities.

**A few concluding thoughts...**

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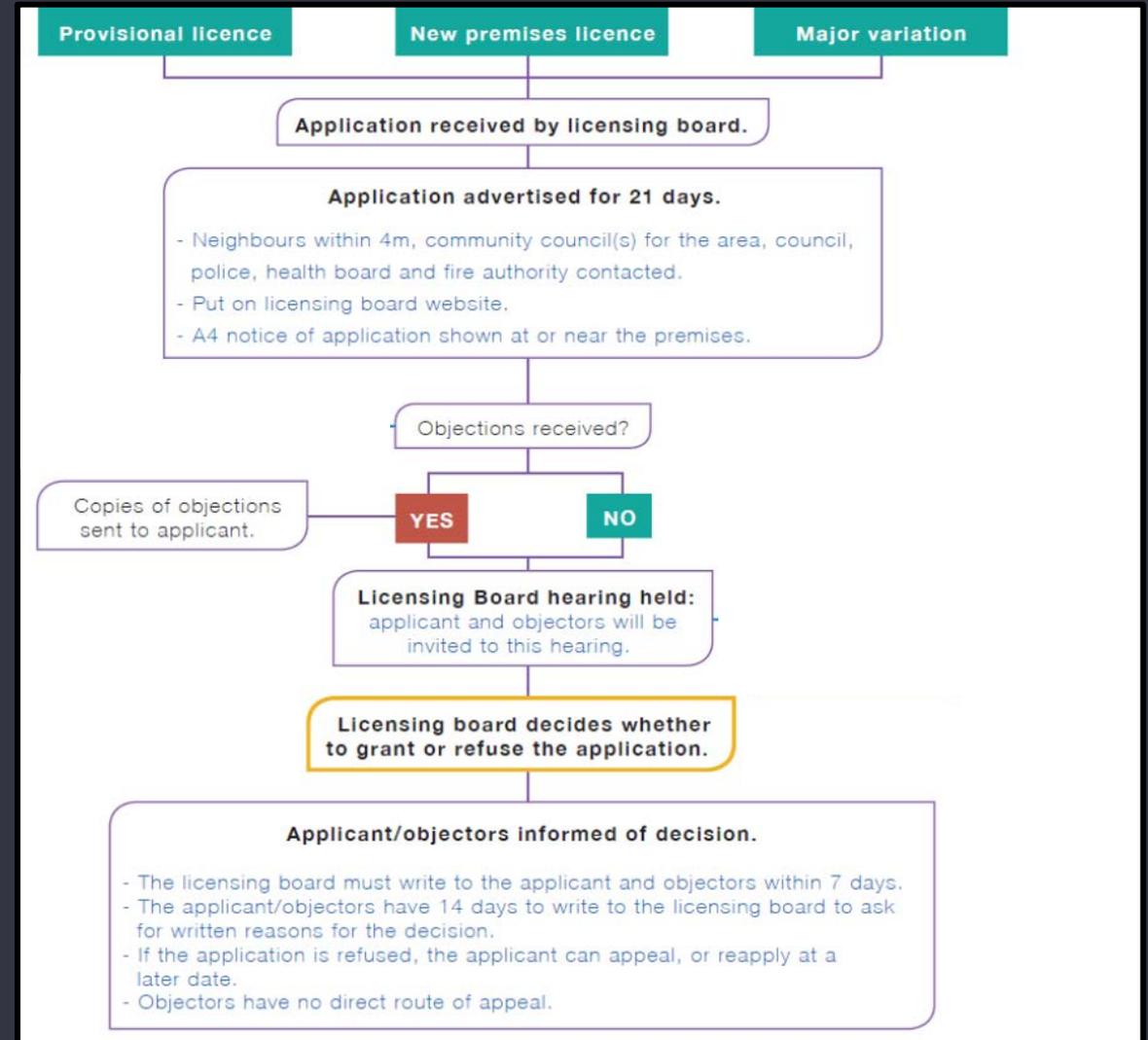
**Policies**



**Who has a seat at the table during policy discussions matters.**

# Liquor licensing and zoning can become highly technical

This can lead regulators to become captive and community members to become excluded.

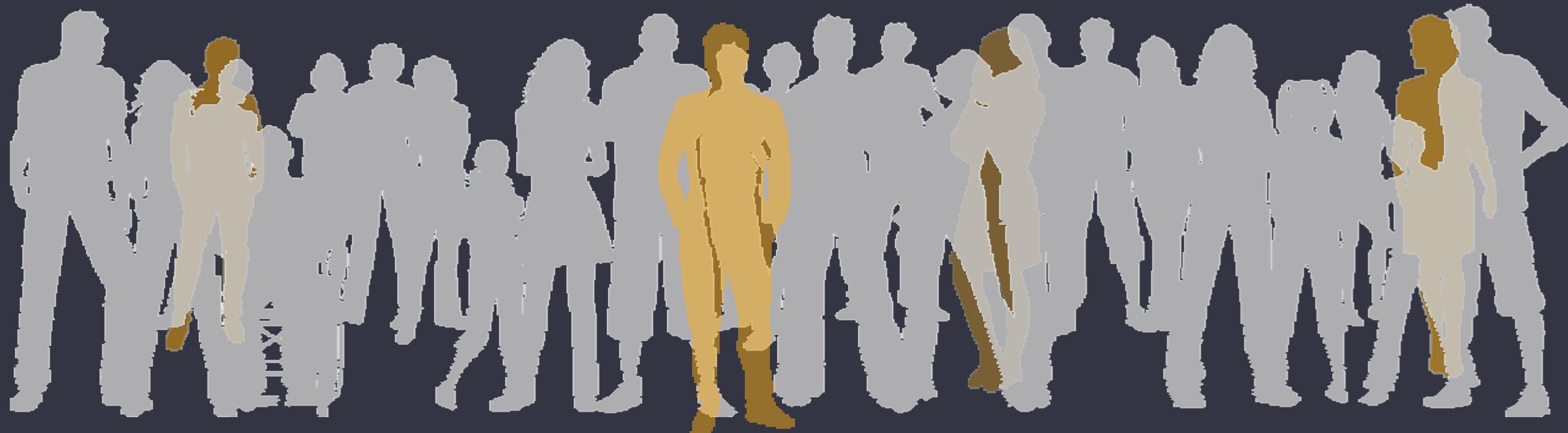


Crompton, G. (2018). Co-production to action: Empowering communities to influence change in alcohol licensing practice in Scotland. Presented at Alcohol Policy 18, Washington DC.

# Community-led solutions

The population affected by the harms from these outlets needs to be part of the decision-making around alcohol outlets.

Best practice is to write community members into the process.



Prologue

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**Policies**

# What can we do?



- All of us - researchers, practitioners, policy makers, and students – should be mindful about how we generate, use, and report data on inequitable issues like alcohol outlet density.
- This thoughtfulness can help avoid false conclusions and stigmatizing neighborhoods or sub-populations.

thank you

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