

# The Distressed Community Index: a Measure of Community-Level Economic Deprivation and Firearm Injuries Rates in Maryland

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#### INTRODUCTION

- ☐ Firearm injuries have become an important epidemic in the United States
- ☐ The US ranked 8th on firearm-related homicides among high-income countries
- ☐ Unintentional injuries due to firearms account for nearly 40% of nonfatal firearm injuries

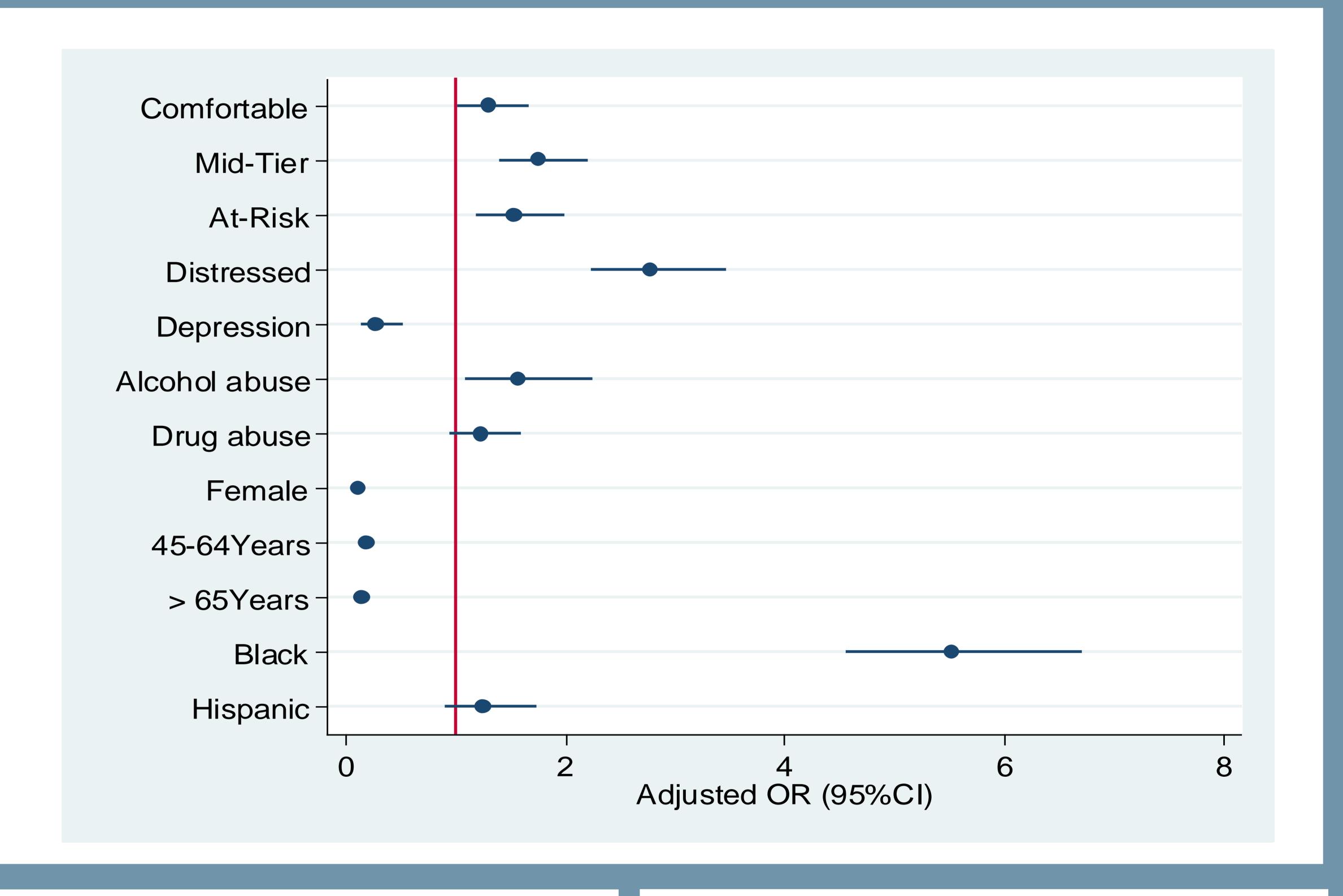
# AIM

☐ To determine the association between DCI (a measure of community-level economic deprivation) and rates of firearm injuries in Maryland

#### RESULTS

- ☐ There were 2767 ED visits because of firearm injuries in the Maryland SID in the study period. Most of these patients were Blacks, 84.5%, and males (88.5%). The median age was 27(21-35) years. The mortality rate was 17.7%.
- □ There is a statistically significant association between community-level economic deprivation and the incidence of ED visits because of firearm injuries (assaults and unintentional). Prosperous, reference, Comfortable, OR=1.23, 95% CI 1.01-1.49, p=0.04), Mid-tier, OR=1.56, 95% CI 1.25-1.93, p <0.001, At-Risk, OR= 1.32, 95% CI 1.02-1.72, p=0.04), Distressed, OR=2.05, 95% CI 1.51-2.77, p<0.001).

1.	The share of the population age 25 and older who lack a high school diploma or its equivalent
2.	The share of individuals living below the federal poverty line
3.	The share of the population aged 25 to 54 not working (i.e., either unemployed or not in the labor force)
4.	The share of housing units that are vacant, adjusted for recreational, seasonal, or occasional use of vaccines
5.	Median household income as a percent of the metro area or state median household income
6.	The change from 2016 to 2020- in the number of employees working in the geography
7.	The change from 2016 to 2020 in the number of establishments located in the geography



## METHOD

- Utilizing the Maryland (SEDD), we conducted a retrospective analysis of all ED visits because of firearm injuries from January 2019 to December 2020
- □ We determined the association between DCI and ED visits because of firearm injuries (Assaults and Unintentional injuries)

## CONCLUSIONS

- ☐ There is an association between the neighborhood economic deprivation and ED visits because of firearm injuries in Maryland
- ☐ The poorest neighborhoods have the highest risk of ED visits because of assaults and unintended firearm injuries

#### REFERENCES

- ☐ Fast Facts: Firearm Violence Prevention. CDC: National Center for Injury Prevention and Control, Division of Violence Prevention, 2022.
- ☐ The Global Burden of Disease 2016 Injury Collaborators. Global Mortality From Firearms, 1990-2016. *JAMA*. 2018;320(8):792–814. doi:10.1001/jama.2018.10060
- □ Kim D (2019) Social determinants of health in relation to firearm-related homicides in the United States: A nationwide multilevel cross-sectional study. PLoS Med 16(12): e1002978.

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