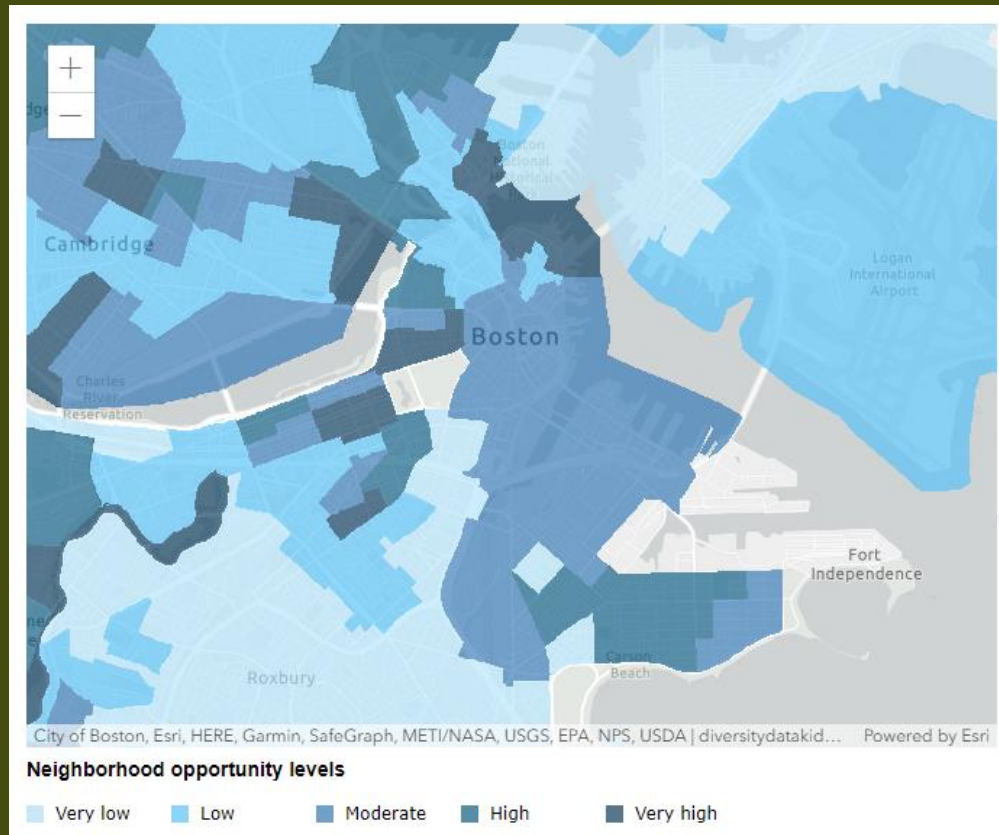


# A measure of structural racism for perinatal research *(and other great uses of the Child Opportunity Index!)*



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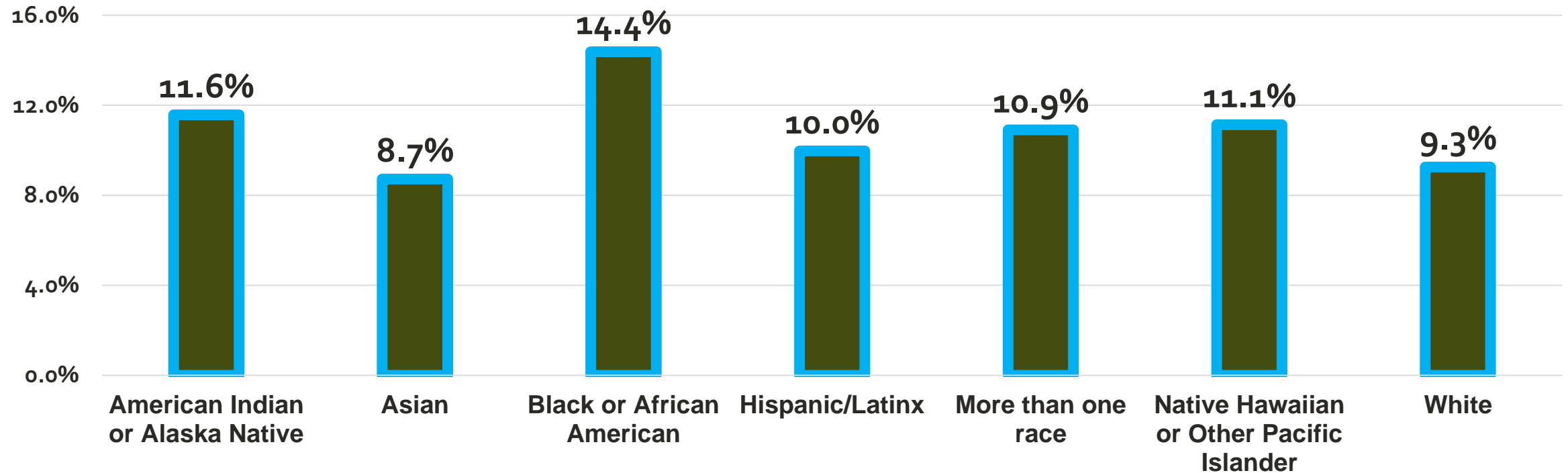
## Things I want to share with you today....

- **A structural racism/oppression research framework** for understanding inequities in preterm birth (and any other health inequities).
- **Share findings** around area-level opportunity (Child Opportunity Index) & preterm birth rates and inequities.
- **Discuss ways I've used the Child Opportunity Index** in teaching & training.

# How do you explain this??



Preterm Birth by Race/Ethnicity, US, 2019



**SOURCE:** United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2016-2019, on CDC WONDER Online Database, October 2020.

# A suggested framework for interpreting inequities in \_\_\_\_\_.

(Noun)

...History of colonialism, genocide, enslavement, eugenics, racial supremacy, patriarchy...

## Structural Racism

Economic & political arrangements that maintain inequities

(Institutional Racism)

Inequitable social/institutional policies



Interpersonal racism

## Opportunities to access

High quality health care/coverage

Educational quality/attainment

Living wage jobs

Healthy, affordable housing

Physical & social environment

Behaviors/exposures

Knowledge

Maternal health conditions/biology

Medical interventions

Racial gap in preterm birth

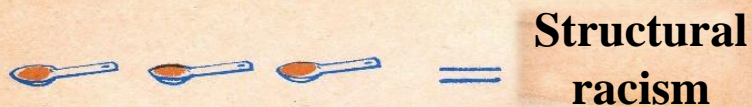
Physiological responses to stress

\*Bailey & Krieger et al., 2018

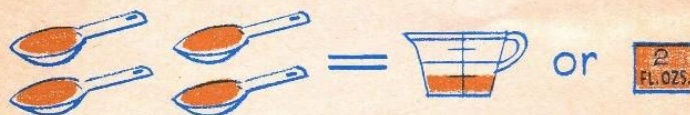


An age-old  
social  
epidemiology  
conundrum:  
How do we  
actually *measure*  
structural  
racism?

## table of measurements



3 teaspoons equal 1 tablespoon



4 tablespoons equal  $\frac{1}{4}$  cup or 2 fluid ounces



1 stick butter equals  $\frac{1}{2}$  cup or  $\frac{1}{4}$  pound



1 cup equals  $\frac{1}{2}$  pint or 8 fluid ounces



2 cups equal 1 pint or 16 fluid ounces





4 cups equal 1 quart

# Child opportunity maps

## *How is opportunity distributed by race?*

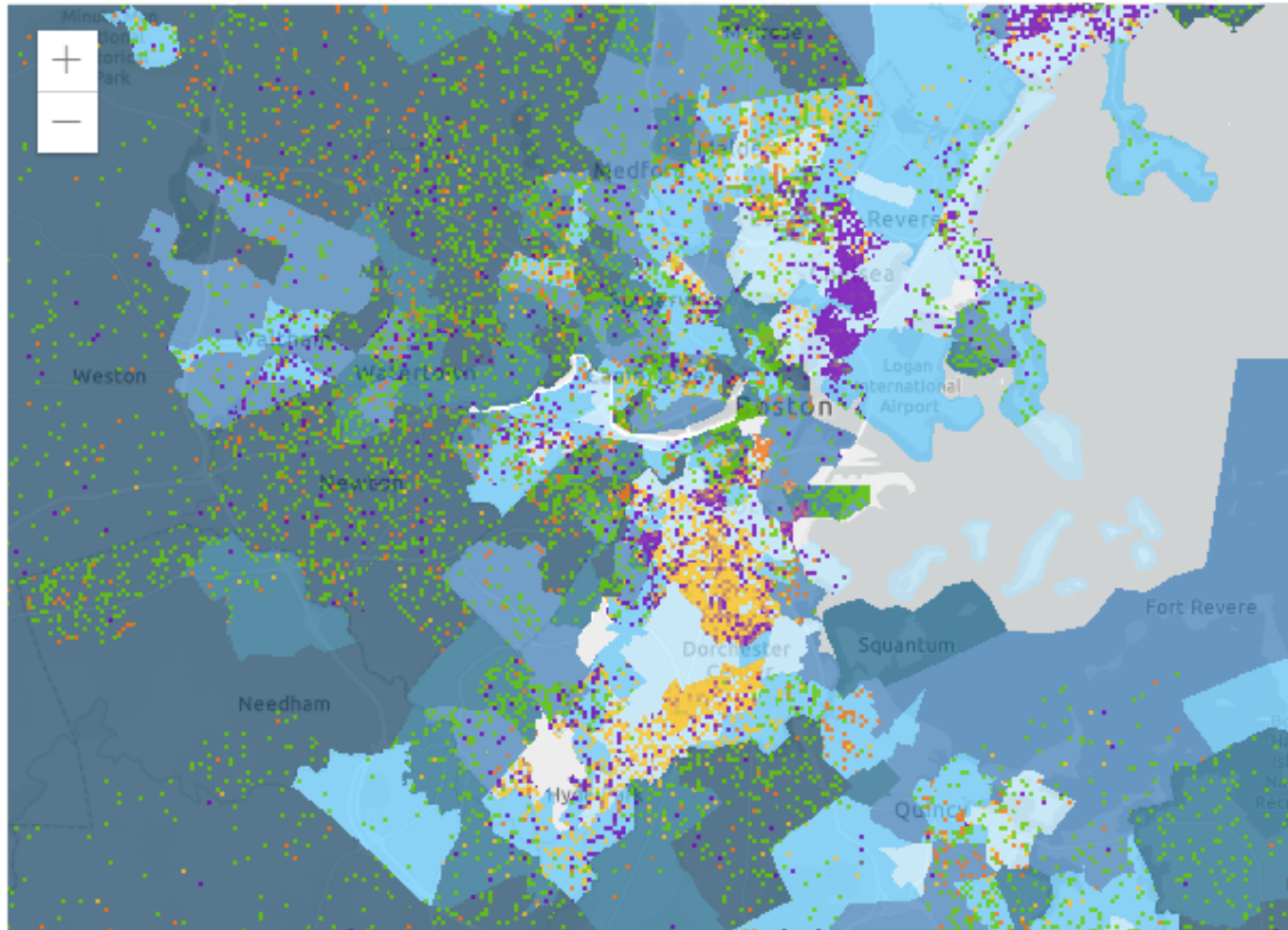
### **Boston metro area**

Metropolitan area 

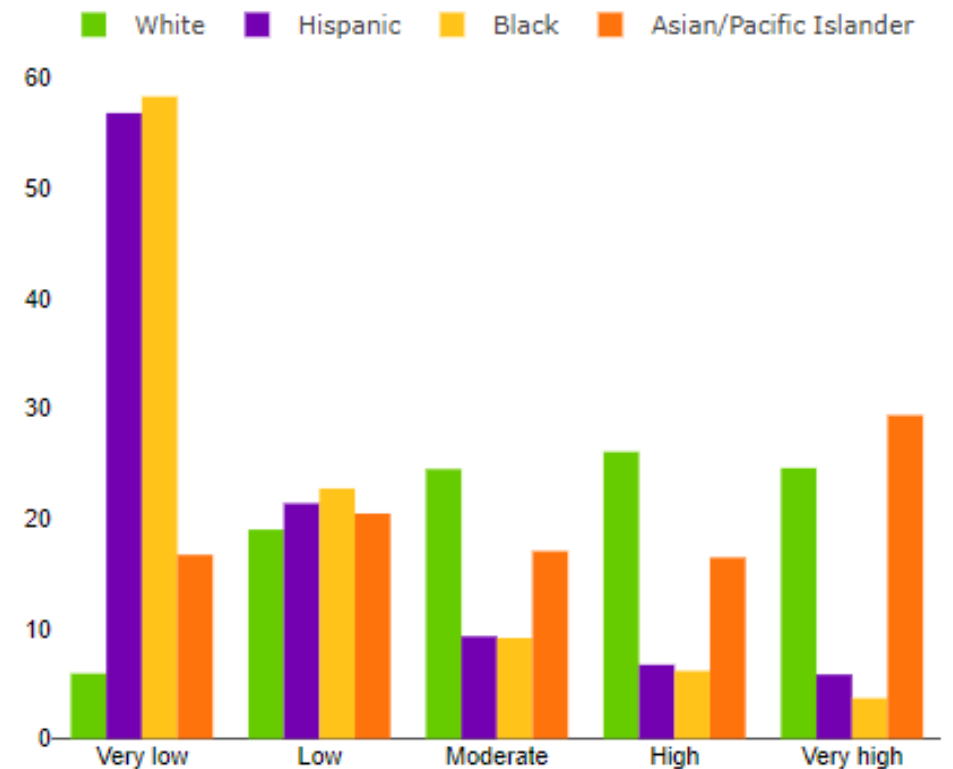
Boston-Cambridge-Newton, MA-NH 

Child population overlay 

White  Hispanic  Black  Asian/Pacific Islander



Percentage of children in the Boston-Cambridge-Newton, MA-NH metropolitan area at each neighborhood opportunity level, by race/ethnicity



# What can you do with area-level data?

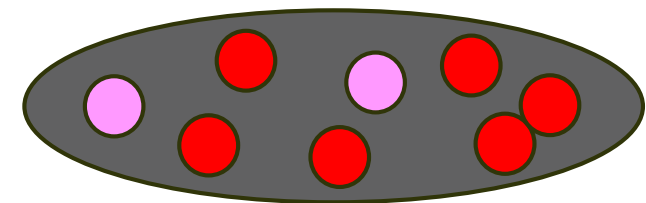
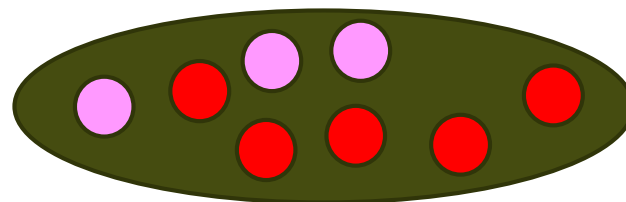
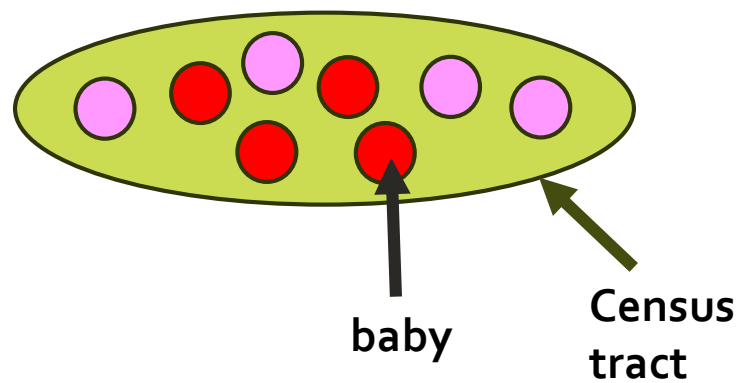
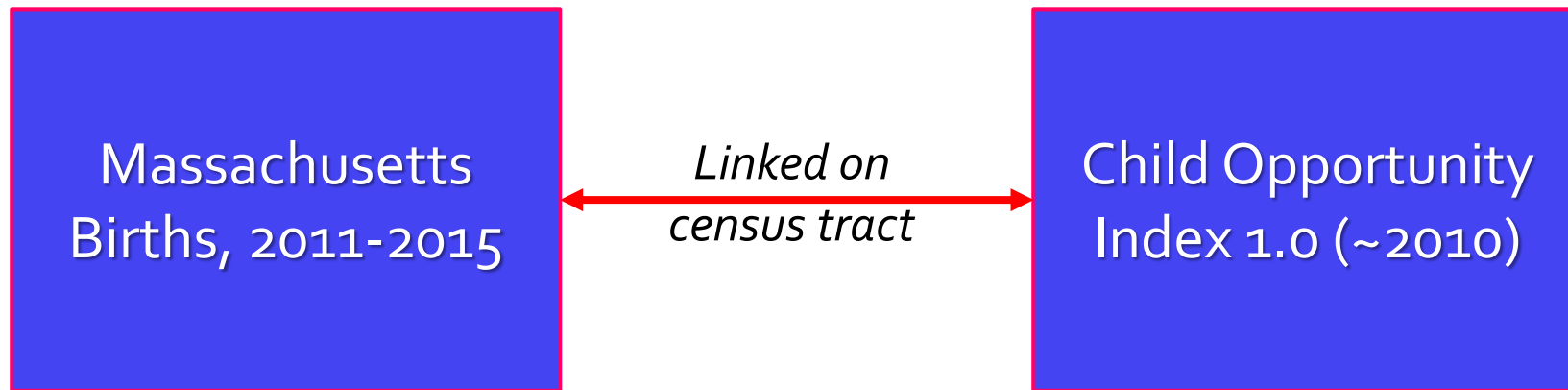
- **Link it to your individual health data and ask...**

**What proportions** of families & children in your area are exposed to low-opportunity environments?  
Who are they?  
How did they get there?

**Does exposure to high/low opportunity** impact health above and beyond individual characteristics?

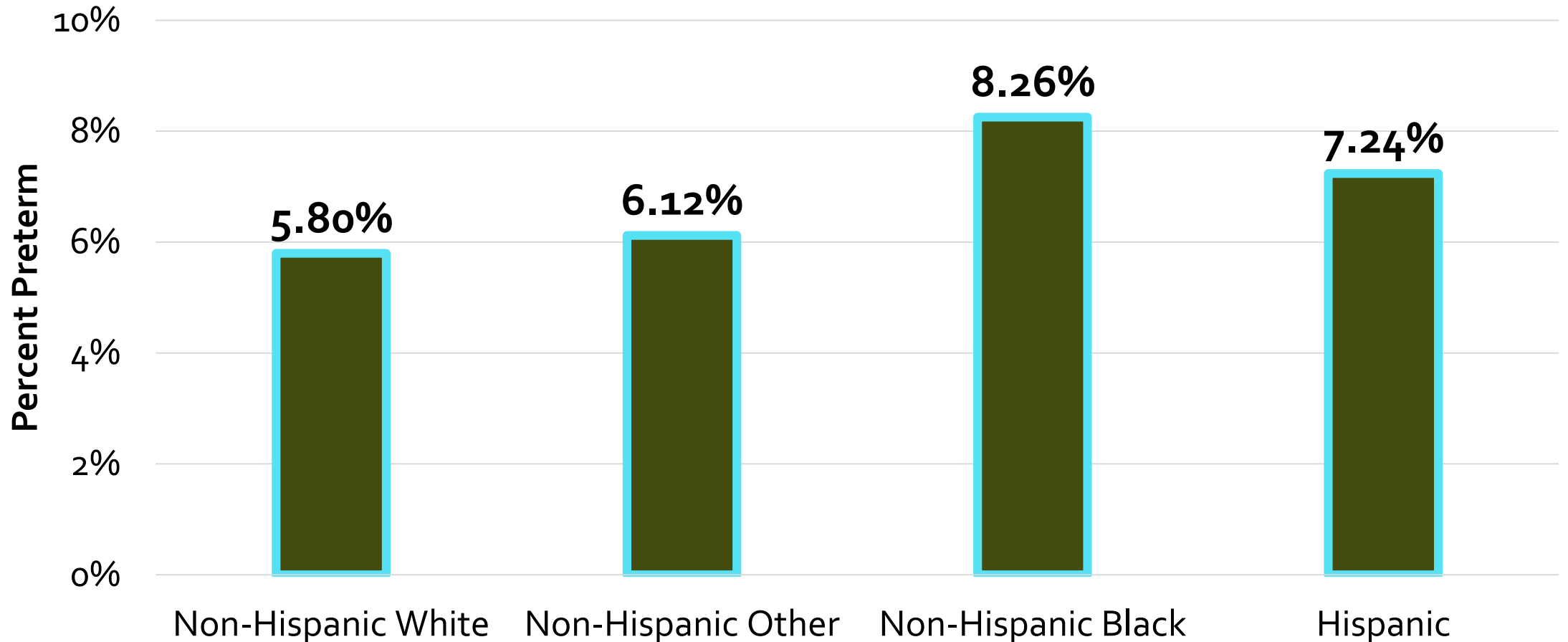
**Do area-level indicators explain** any of the racial/ethnic gaps in health outcomes?

# I ♥ linked data.

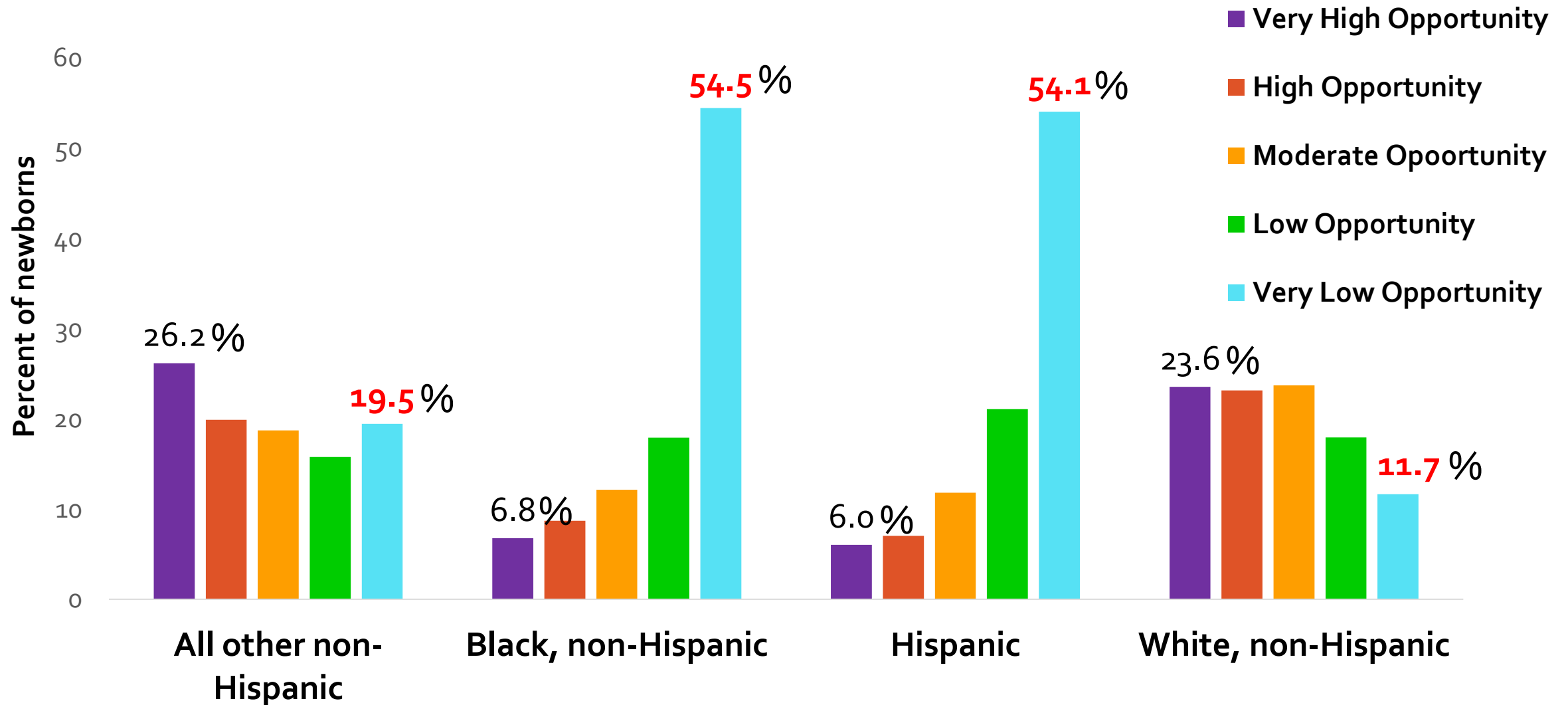




# Prevalence of (singleton) preterm birth, by race/ethnicity, Massachusetts, (Springfield, Worcester & Boston Metro Areas), 2011-2015 (unadjusted %'s)



# First thing I wanted to know: Where did MA singleton newborns (in 3 largest metro areas, born 2011-2015) live, by race/ethnicity?

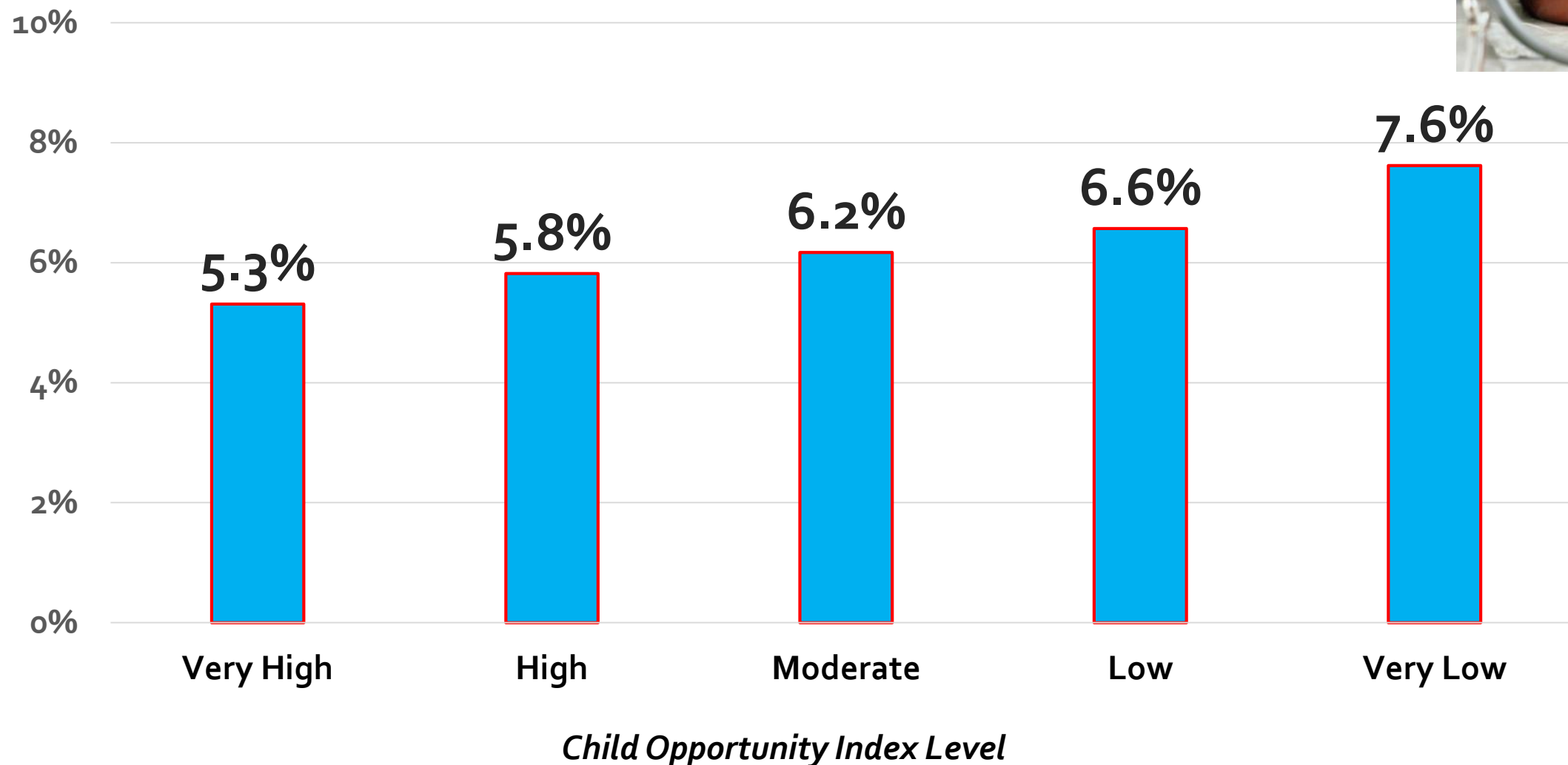


## Second thing I wanted to know:

What was the prevalence of (singleton) preterm birth, by opportunity level (COI)?



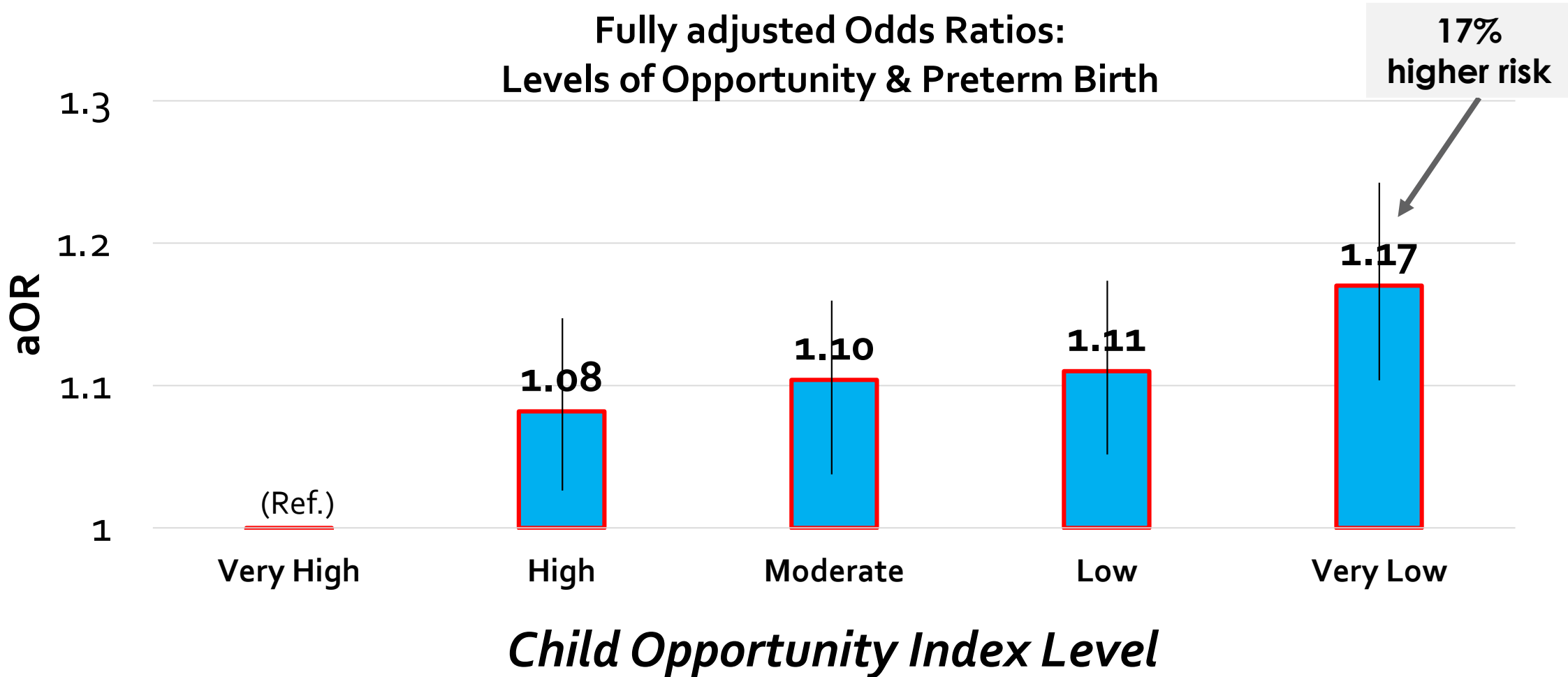
Photo Credit: Lancet



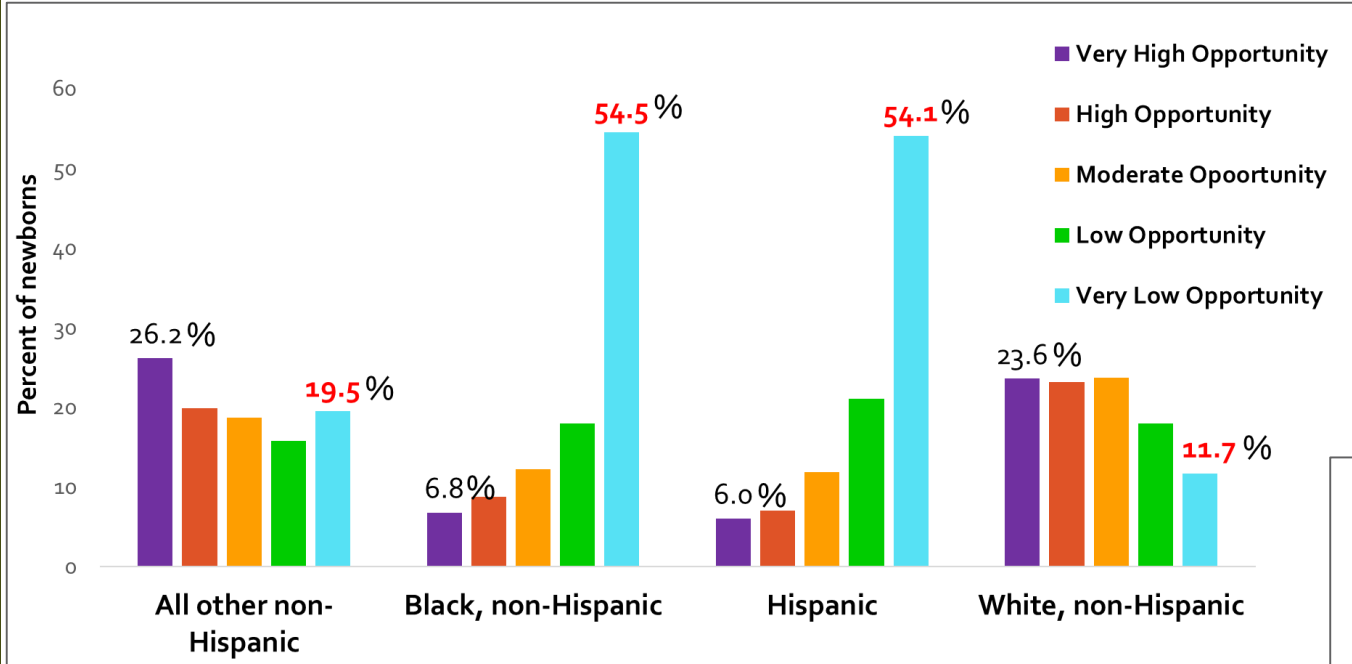
## Third thing I wanted to know:

Did risk associated with opportunity level persist?

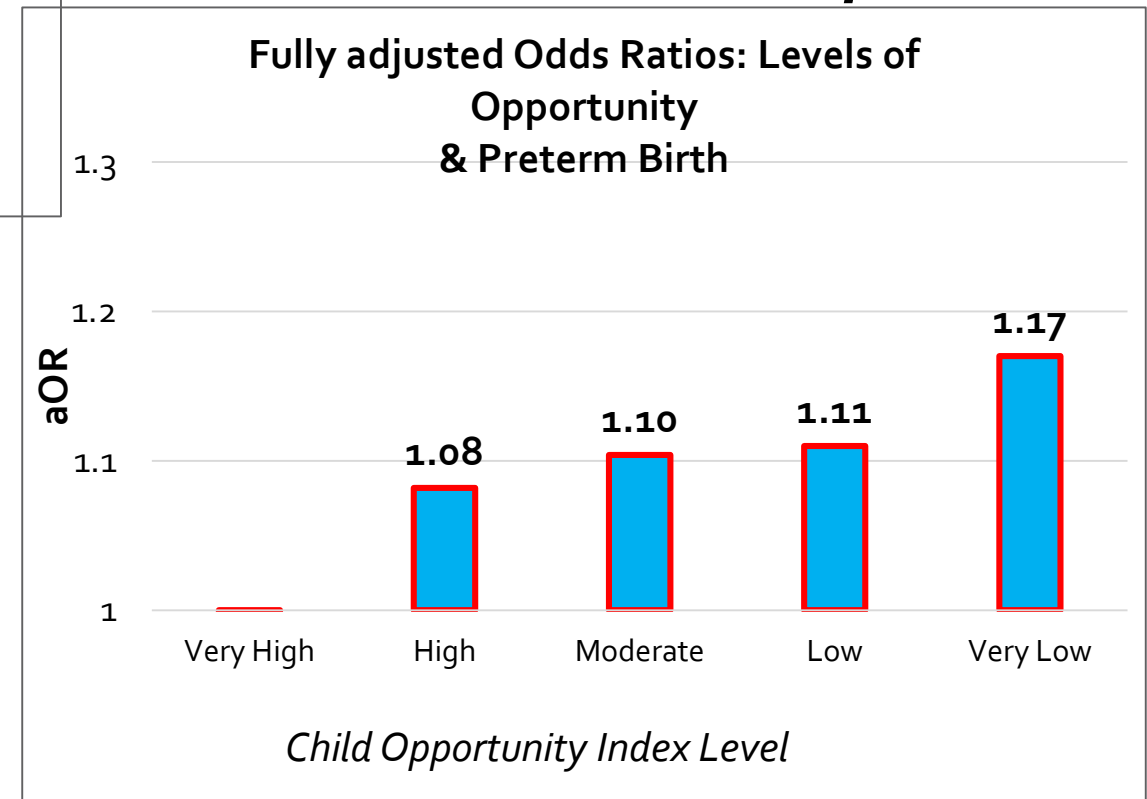
(even after controlling for maternal age, race, education, marital status, BMI....)



## Prevalence of exposure by race



## Risk associated with Exposure

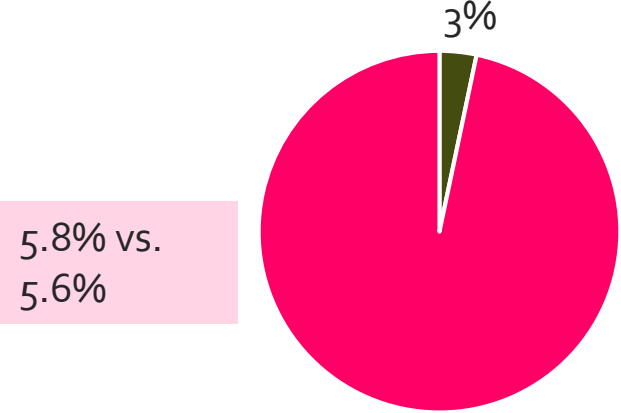


**And another thing:** Did the combination of differential opportunity by race and higher risk associated with very low opportunity explain any of the PTB gap?

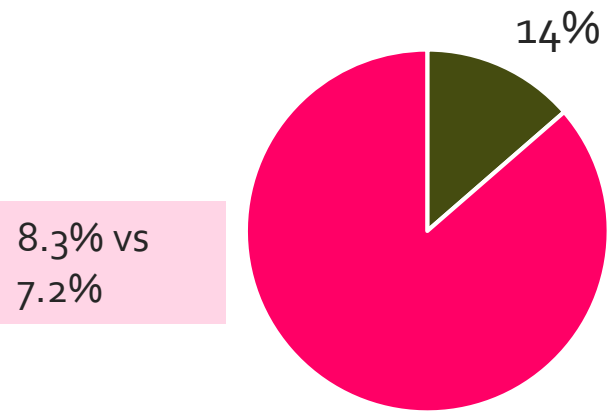


# Proportion of MA preterm rates (possibly) explained by residence in a very-low opportunity area (a population attributable risk calculation)

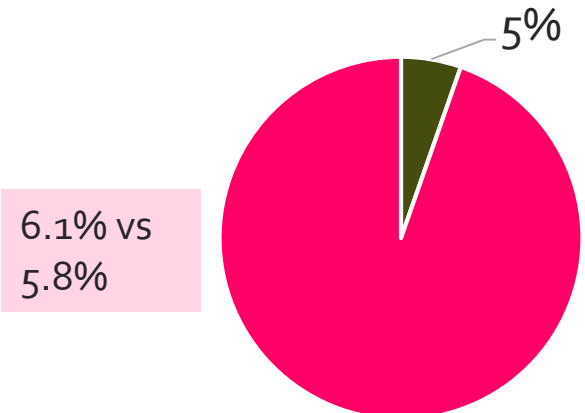
Non-Hispanic White



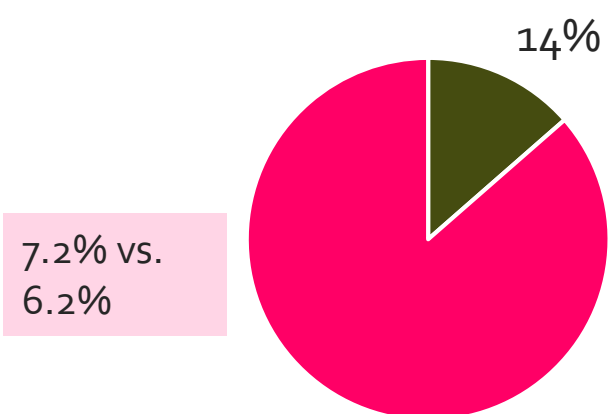
Non-Hispanic Black



Non-Hispanic, Other



Hispanic



# Switching gears (a little)



*Other reasons I love the Child Opportunity Index!*

# Other great ways I've used the COI



School of Public Health

Maternal and  
Child Health

Health Equity  
courses

Community Health  
Needs Assessment



# Take Aways?

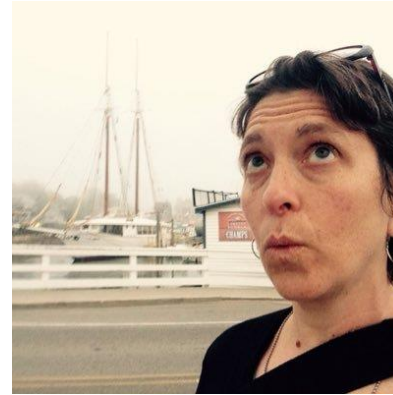
- **We CAN measure structural racism!**
  - The Child Opportunity Index represents a view on it.
  - Easy linkage to data with geocodes for multilevel analyses.
- **Structural oppression harms perinatal health, above and beyond individual/social determinants.**
- **COI is a highly useful teaching and community assessment tool.**
- **(I'm a big fan)**



# Thanks for listening!

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Phone: 617-358-1791 (*But you should probably just email me 😊*)







Thank you!

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