

Social and Environmental Disparities Affecting Asthma Outcomes in the DMV Region

Advancing Asthma Care: A PHN Initiative
Educational Webinar #3



Speakers: Chaya Merrill, DrPH and Chidiogo Anyigbo, MD, MPH

Pediatric Health Network



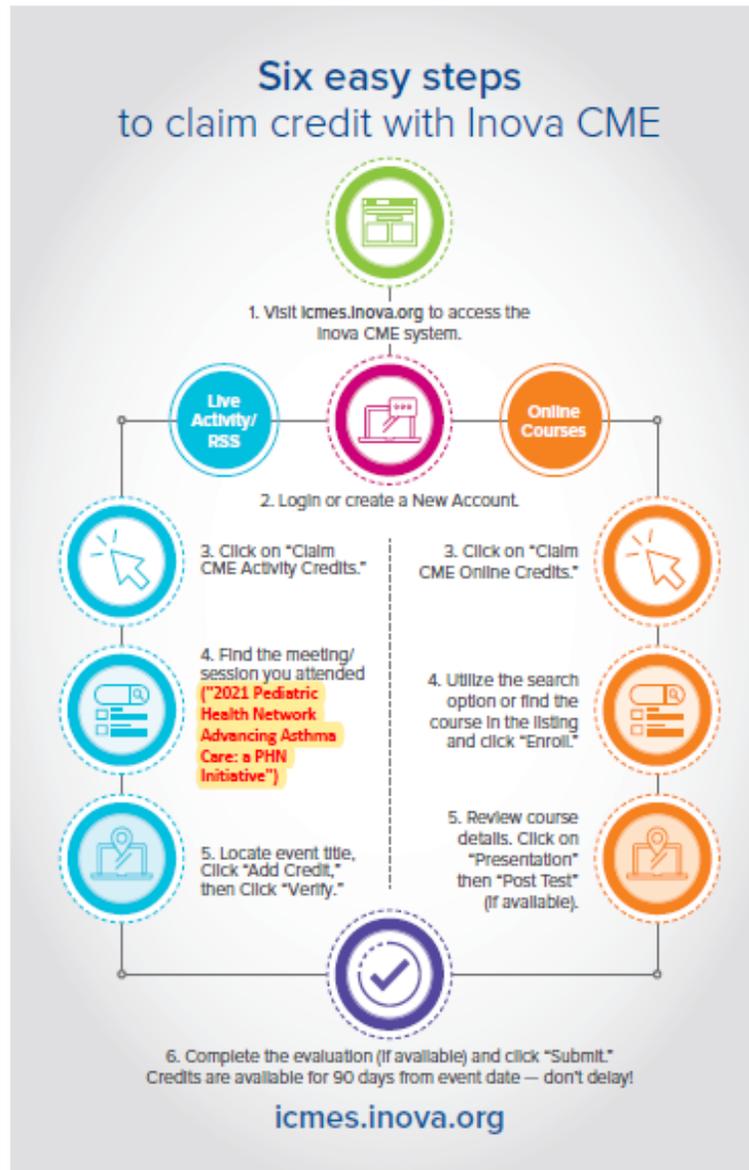
A few notes about today's webinar:

- All lines are muted throughout the presentation.
- Please use the Q&A function to ask questions or make comments during the presentation
- We will be recording the session.
- Today's recording and materials will be posted to the PHN's virtual collaboration site, [Glasscubes](#), following the presentation.

CME

6 easy steps to claim credit with Inova CME

Questions? Please contact us at cme@inova.org.

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Speakers



Chaya Merrill, DrPH



Chidiogo Anyigbo, MD, MPH

No conflicts to disclose:

- No financial or business interest, arrangement or affiliation that could be perceived as a real or apparent conflict of interest in the subject (content) of their presentation.
- No unapproved or investigational use of any drugs, commercial products or devices.

Patient Race & Ethnicity Data: A Foundational Step Towards Health Equity



Chaya Merrill, DrPH
Director, Child Health Data Lab
Children's National Hospital

Pediatric Health Network



Welcome & Introduction

Pediatric Health Network



Chaya Merrill

- Working for Children's National Hospital for 10+ years
- Director of the Child Health Data Lab
- Co-Lead for Community Engagement in Research/Clinical & Translational Science Institute
- Trained as an Epidemiologist

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Today's Talk

The importance of collecting patient race and ethnicity data as a key manner to improve health equity



What is race?

What is ethnicity?

What is health equity?

Simplified Definitions: Race and Ethnicity

Race: physical differences that groups and cultures consider socially significant

Ethnicity: shared culture, such as language, ancestry, practices, and beliefs

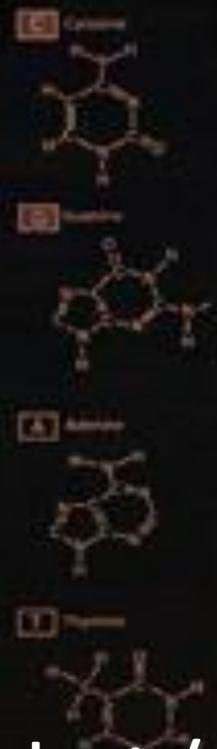
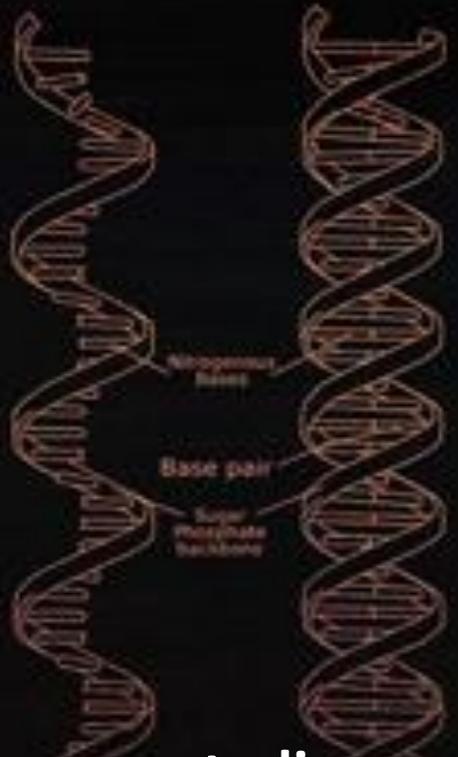
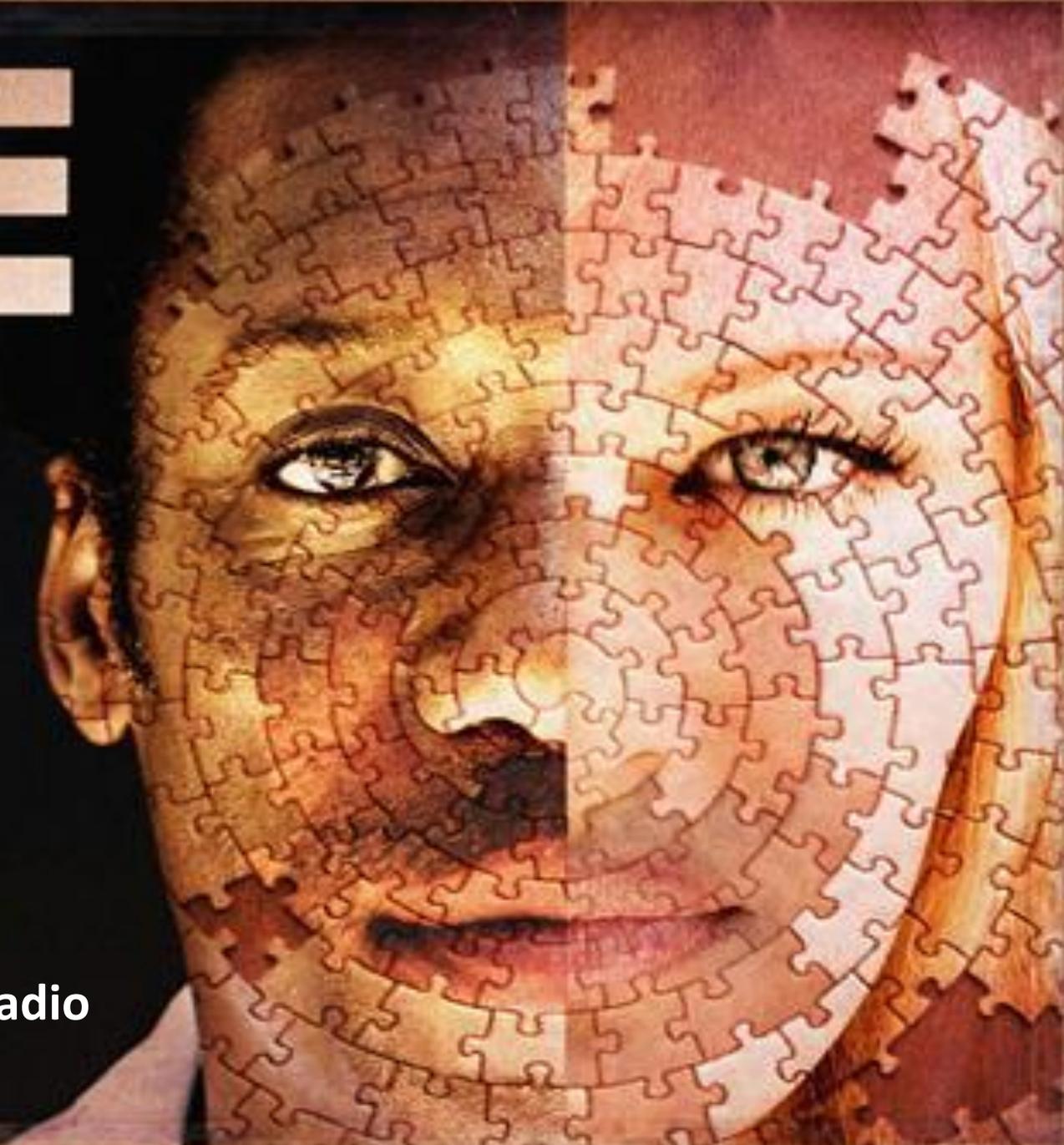


Race is not a biological construct;
it is a social construct

Race is an **ideology** and for this reason, scientists believe that race should be described as a social construct and not a biological one.

- Human Genome Project

RACE



<https://www.wnycstudios.org/podcasts/radiolab/episodes/91653-race>

DNA
Deoxyribonucleic acid
Nitrogenous Bases



How Science and Genetics are Reshaping the Race Debate of the 21st Century

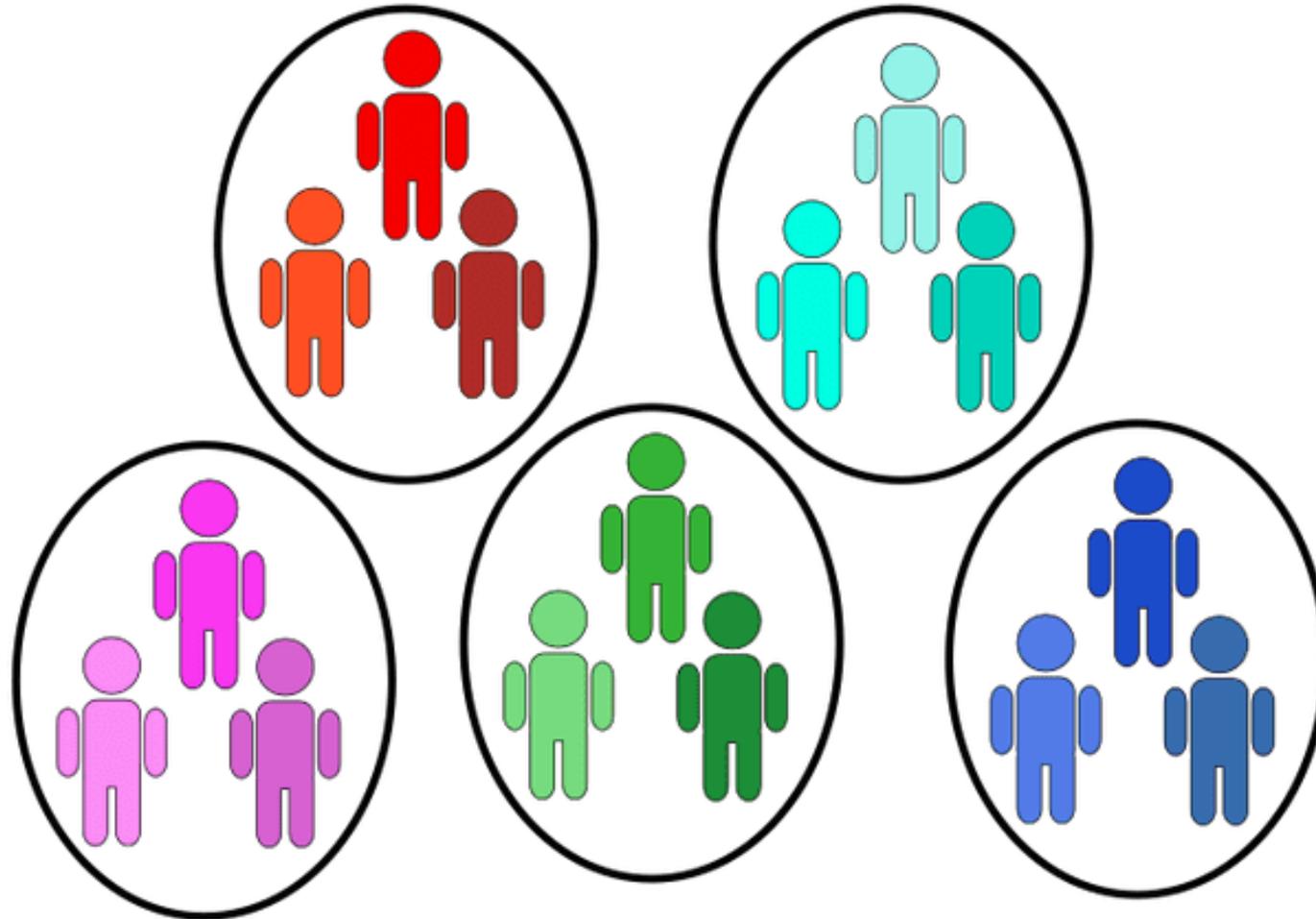
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HARVARD UNIVERSITY
The Graduate School of Arts and Sciences

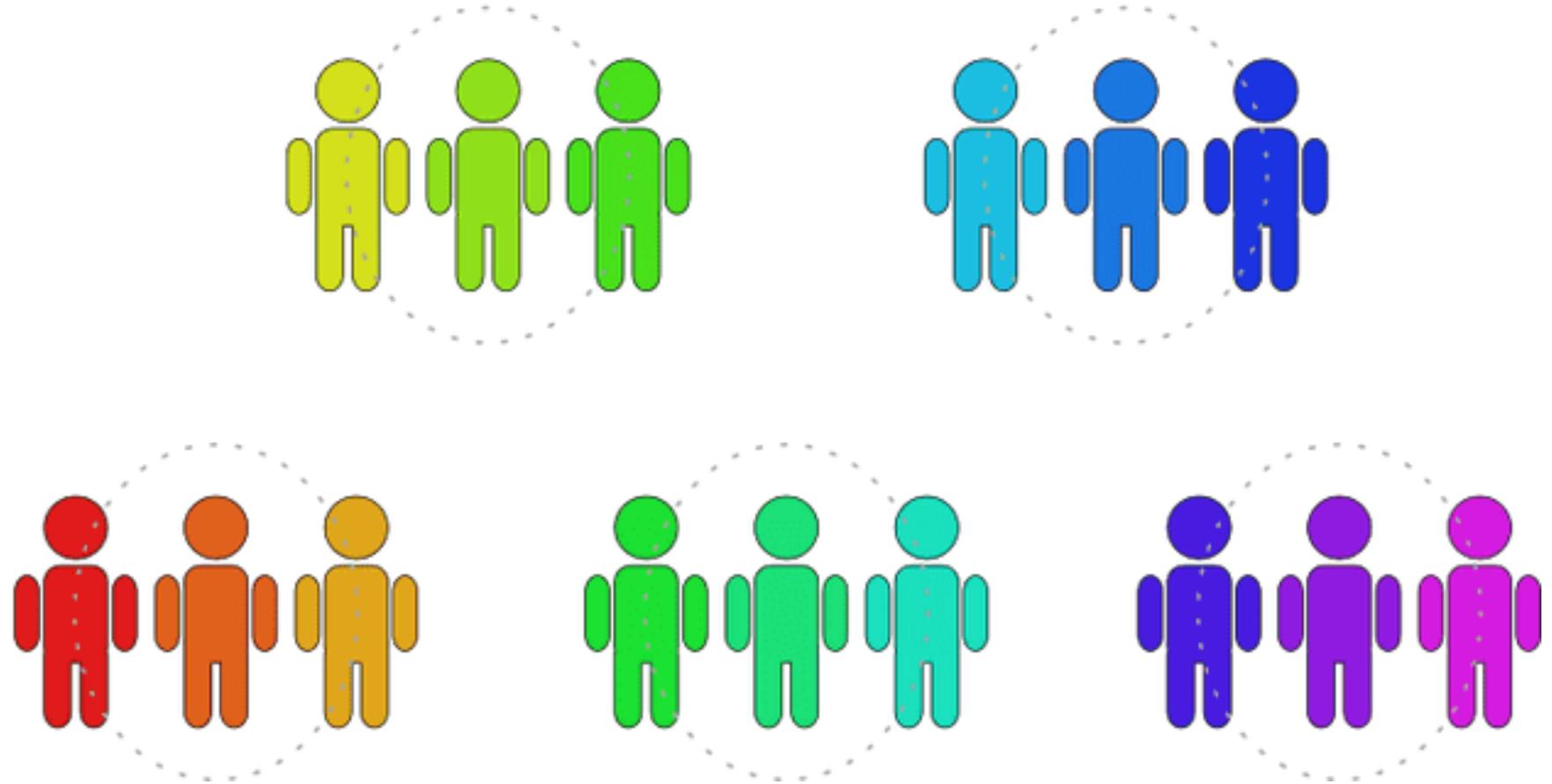
The old concept of the “five races:” African, Asian, European, Native American, and Oceanian. Variation between the races was thought to be large, and thus, the each race is a separate category. Additionally, individual races were thought to have a relatively uniform genetic identity.

MYTH



REALITY

Actual genetic variation shows that variation between different regions is small, thus blurring the lines between populations. Furthermore, variation within a single region is large, and there is no uniform identity.



Ethnicity encompasses everything
from language, nationality, culture
and religion

RACE

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- Other Race: [please specify]

ETHNICITY

- Hispanic or Latino
- Not Hispanic or Latino

What is racism?



Institutional or Structural Racism

- Differential access to goods, services, and opportunities by race
- Structural barriers for some, unearned privilege for others



Personally Mediated or Interpersonal Racism

- Discrimination
- Assumes different abilities, motives, or intentions by race
- Intentional or unintentional
- Explicit or implicit bias



Internalized Racism

- Members of an oppressed group believe the negative stigma against them
- Participate in systems that support the supremacy of another group
- Erodes sense of value

Source:

Jones CP. Levels of racism: a theoretic framework and a gardener's tale. *Am J Public Health*. 2000;90(8):1212-1215. doi:10.2105/ajph.90.8.1212

Health Equity

is when people have what they need to live health and happy lives

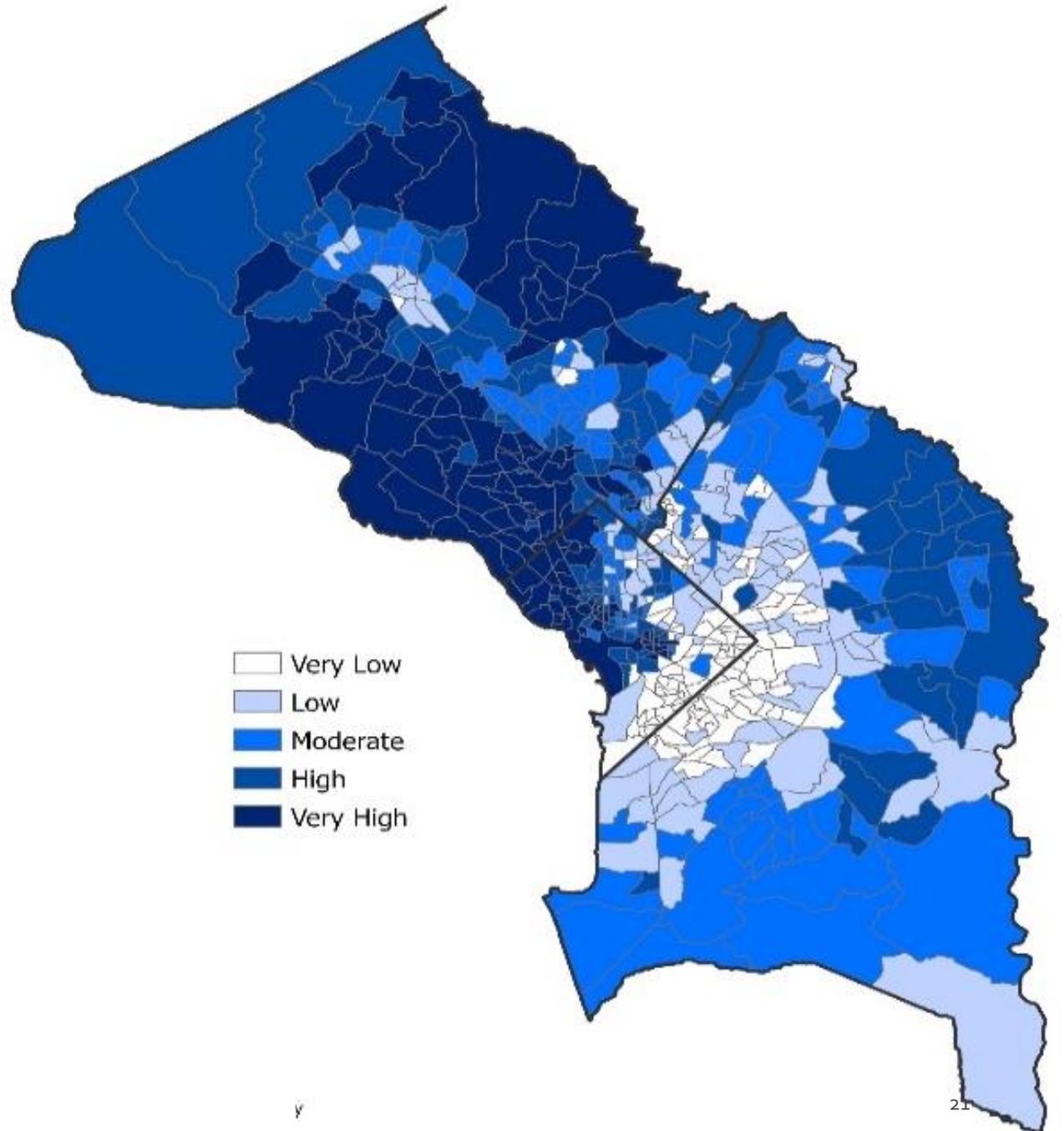


Health Inequities

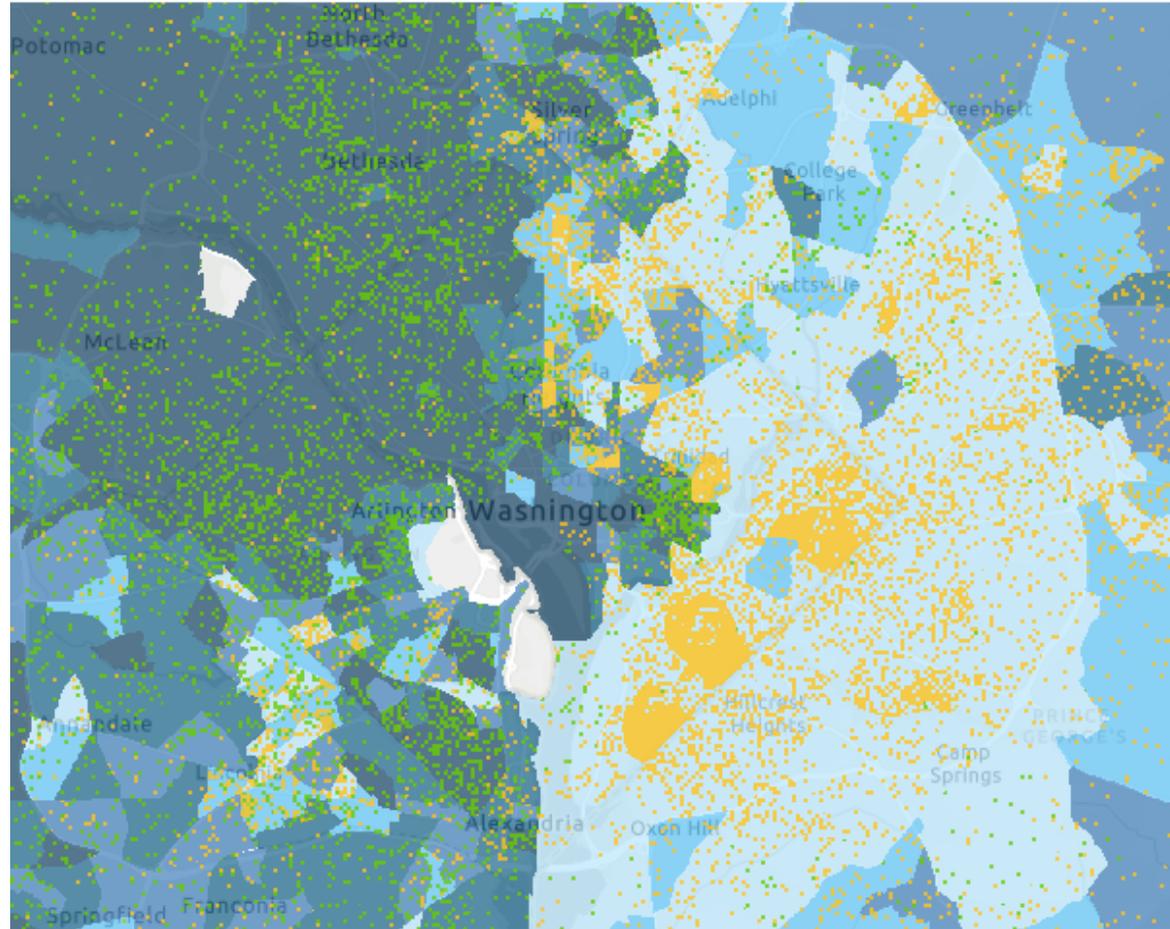
are **measurable, systemic, avoidable,** and **unjust** difference in health between groups, stemming from differences in levels of social advantage and disadvantage

**Race is a
fundamental driver
of health inequities**

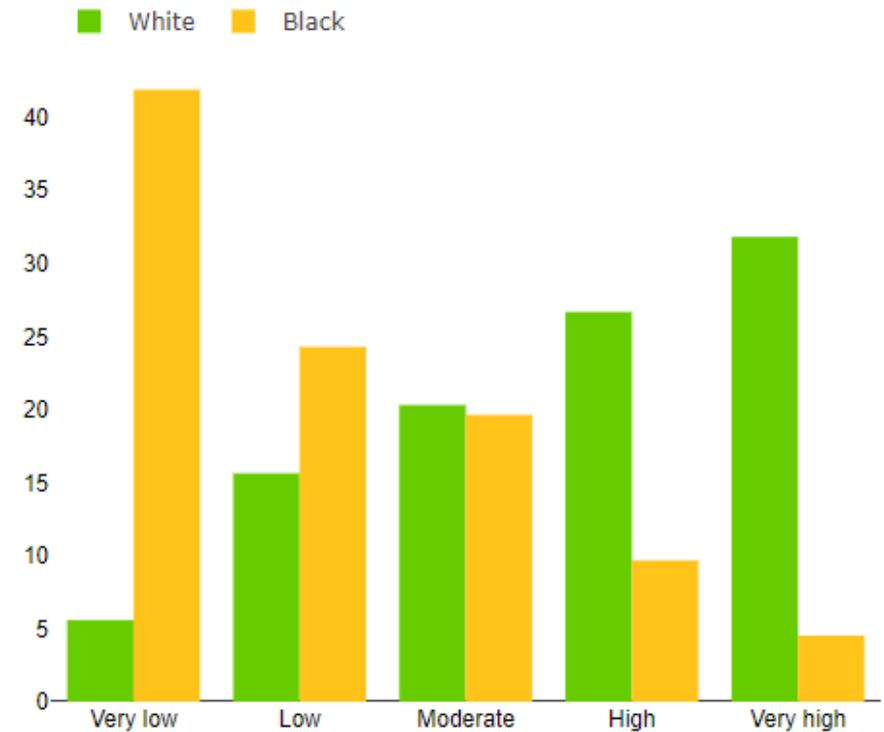
A Look at Inequity: Mapping Child Opportunity by Neighborhoods

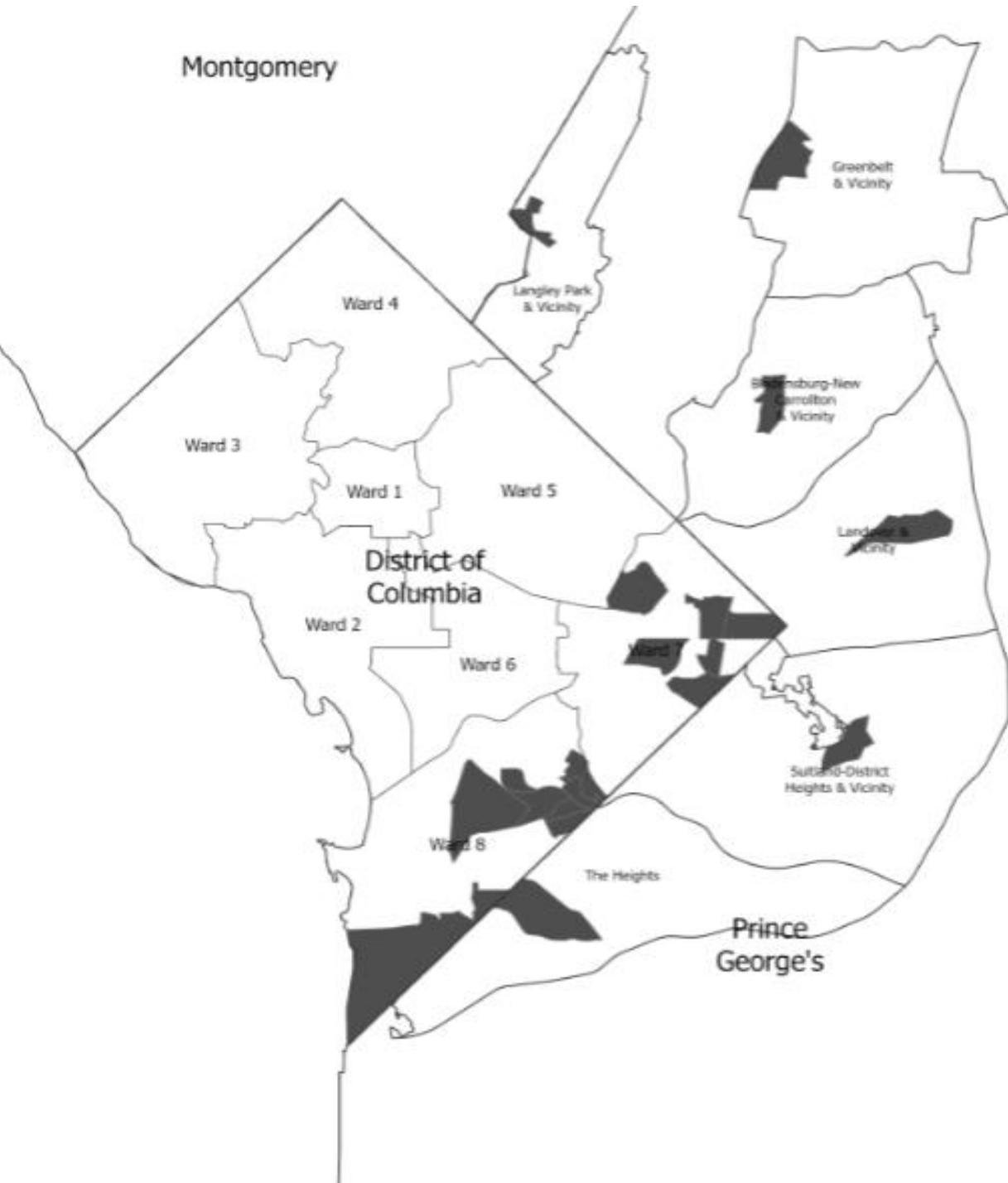


Inequities in Child Opportunity by Race



Percentage of children in the Washington-Arlington-Alexandria, DC-VA-MD-WV metropolitan area at each neighborhood opportunity level, by race/ethnicity





Very Low Opportunity COI ($\leq 10^{\text{th}}$ Percentile)

Washington, DC

Ward 7: Lincoln Heights, Marsh Heights, Fort Dupont, East Gardens, Naylor Hill

Ward 8: Naylor Hill, Anacostia, Bellevue, Douglas, Saint Elizabeth

Maryland

Prince George's County: Glassmanor, Walker Mill, Landover, Bladensburg, Langley Park, Greenbelt

Working with PHN to understanding community physician perspectives related to child opportunity

Why do race & ethnicity matter in healthcare?

Racism is a social determinant of health that has a profound impact on the health status of children, adolescents, emerging adults, and their families

POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

The Impact of Racism on Child and Adolescent Health

Maria Trent, MD, MPH, FAAP, FSAHM,^a Danielle G. Dooley, MD, MPhil, FAAP,^b Jacqueline Dougé, MD, MPH, FAAP,^c SECTION ON ADOLESCENT HEALTH, COUNCIL ON COMMUNITY PEDIATRICS, COMMITTEE ON ADOLESCENCE

The American Academy of Pediatrics is committed to addressing the factors that affect child and adolescent health with a focus on issues that may leave some children more vulnerable than others. Racism is a social determinant of health that has a profound impact on the health status of children, adolescents, emerging adults, and their families. Although progress has been made toward racial equality and equity, the evidence to support the continued negative impact of racism on health and well-being through implicit and explicit biases, institutional structures, and interpersonal relationships is clear. The objective of this policy statement is to provide an evidence-based document focused on the role of racism in child and adolescent development and health outcomes. By acknowledging the role of racism in child and adolescent health, pediatricians and other pediatric health professionals will be able to proactively engage in strategies to optimize clinical care, workforce development, professional education, systems,

abstract

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Drs Trent, Dooley, and Dougé worked together as a writing team to develop the manuscript outline, conduct the literature search, develop the stated policies, incorporate perspectives and feedback from American Academy of Pediatrics leadership, and draft the final version of the manuscript; and all authors approved the final manuscript as submitted.

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What are racial disparities in healthcare quality?

Black and Hispanic/Latino patients tend to receive a lower quality of healthcare; less likely to receive:

- Cancer screening
- Cardiovascular therapy
- Kidney dialysis
- Transplants
- Curative surgery for lung cancer
- Hip and knee replacement
- **Pain medicines in the ER**

Racial Disparities in Pain Management of Children With Appendicitis in Emergency Departments

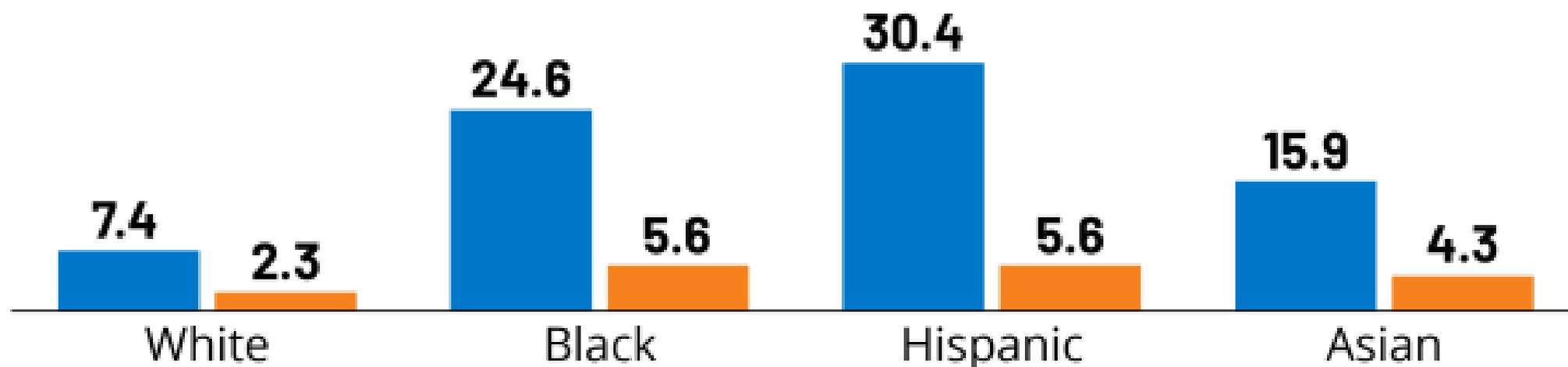
Monika Goyal, et al.

Black children are less likely to receive any pain medication for moderate pain and less likely to receive opioids for severe pain, suggesting a different racial threshold for treatment

COVID-19 Hospitalization and Death Rates among Active Epic Patients by Race/Ethnicity

Rate per 10,000, as of July 2020

● Hospitalization Rate ● Death Rate



Total Active Patients
(millions)

34.1

7.0

5.1

1.4

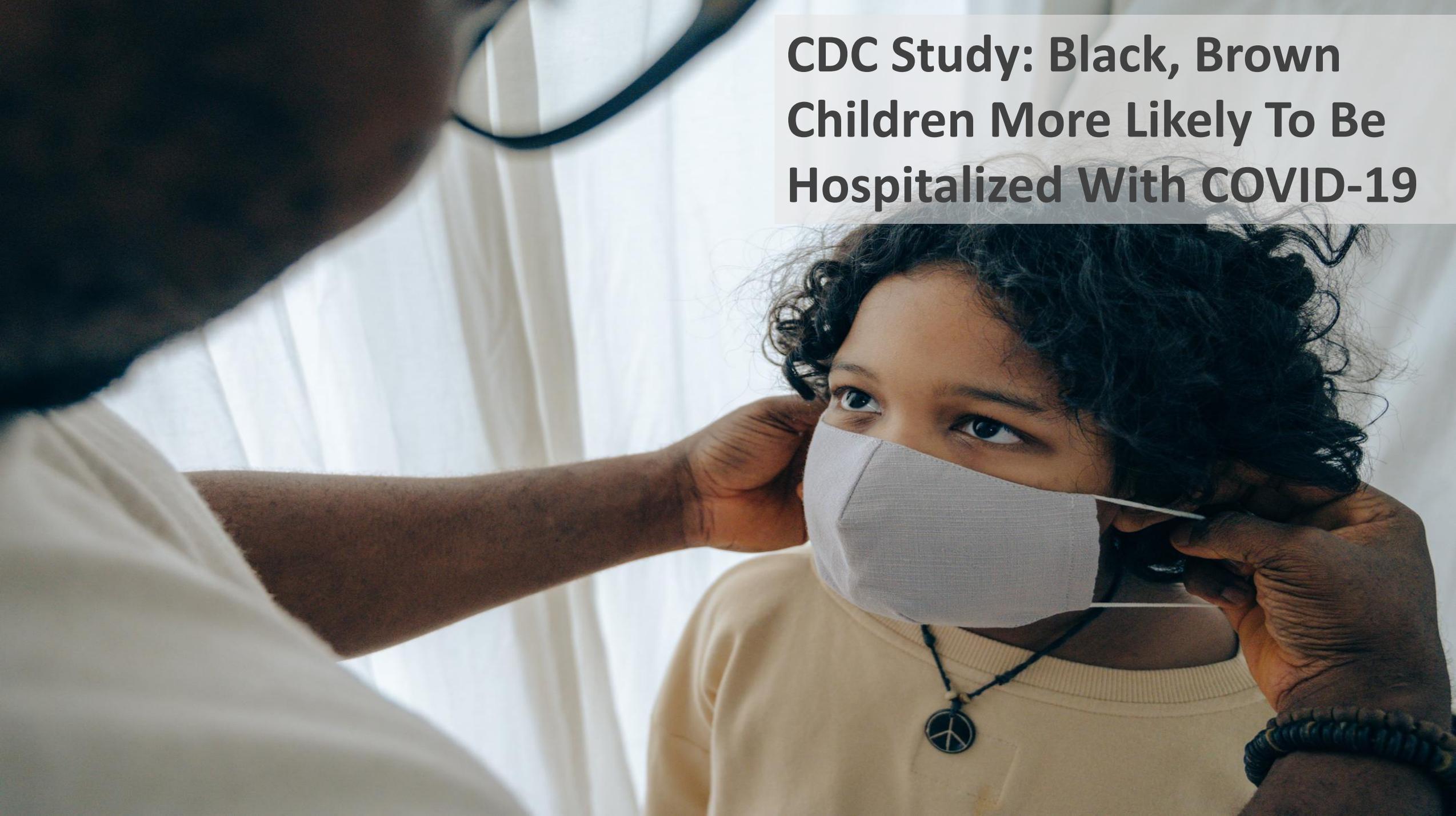
NOTE: Rates for Black, Hispanic, and Asian patients are statistically significantly different from White patients at the $p < 0.05$ level.

Persons of Hispanic origin may be of any race but are categorized as Hispanic; other groups are non-Hispanic.

Data for other racial groups not shown due to insufficient data.

SOURCE: Epic and KFF analysis of Epic Health Record System COVID-19 related data as of July 2020.

**CDC Study: Black, Brown
Children More Likely To Be
Hospitalized With COVID-19**



"COVID-19–associated hospitalization rates were higher among Hispanic and Black children than among white children," the study said. "The rates among Hispanic and Black children were nearly **eight times** and **five times**, respectively, the rate in White children."

<https://www.gpb.org/news/2020/08/26/cdc-study-black-brown-children-more-likely-be-hospitalized-covid-19>

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Patient Records: Why Collect Race & Ethnicity Data?

- To ensure that all patients receive high-quality care
- To identify and eliminate any healthcare disparities
- To plan quality improvement initiatives
- To better understand the types of patient the PHN serves
- To ensure adequate interpreter services, patient information materials, and cultural competency training for staff
- To compare disease occurrences between racial and ethnic groups

How can we address health disparities with data?

Steps in Addressing Disparities

- Collect race and ethnicity data across PHN facilities
- Find differences in patient care/outcomes by comparing different racial/ethnic groups
- Work to understand the root causes of disparities
- Implement quality improvement interventions and/or policy changes to address disparities

Best Practices: You are Not On Your Own!

- Use the same categories across the PHN
- Consider patient self-report of race and ethnicity
- Do not "eyeball" the patient for race/ethnicity
- Allow patients to choose multiple races
- Educate patients as to why we are collecting race and ethnicity

Building an Organizational Response to Health Disparities



**INVENTORY OF RESOURCES FOR
STANDARDIZED DEMOGRAPHIC
AND LANGUAGE DATA COLLECTION**

HRET Disparities Toolkit

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Addressing Concerns from Patients

- General rule of thumb: If a person does not want to answer these questions, move on. Do not force the issue. Simply record “Declined.”
- In some instances, people may have questions or be confused. Training of staff is critical!



I am American
I am mixed race
Why does this matter?
Why do you care?
I don't know

Handling Patient Responses

- Use common sense
- Decide whether you will provide a list of categories or whether you will let patients self-report based on their own descriptions
- Respect patient descriptions/choices
- Avoid words that might be considered confrontational

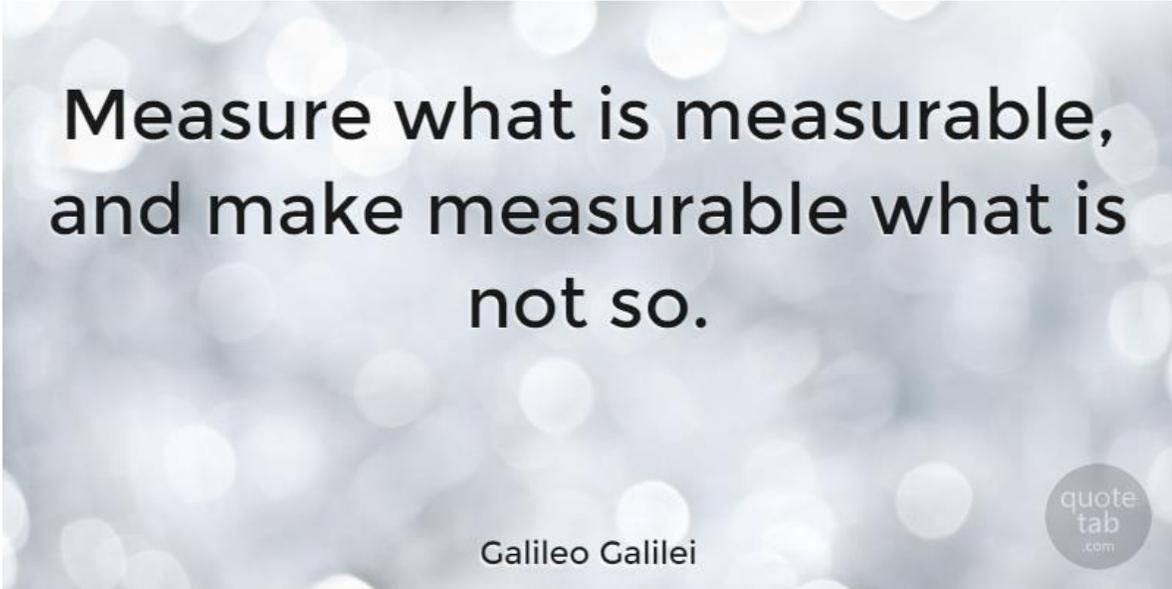


Bottom Line: Data Matters!



**IF YOU CAN'T
MEASURE IT, YOU
CAN'T CHANGE IT**

PETER DRUCKER



Measure what is measurable,
and make measurable what is
not so.

Galileo Galilei

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Be a **champion** for
collection of patient
race and ethnicity data



Leaning into Curiosity: The Interconnections of Place, Race, and Social Risk in Asthma Management



Chidiogo Anyigbo, MD, MPH, FAAP

PHN Grand Rounds

May 12, 2021

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Acknowledgments

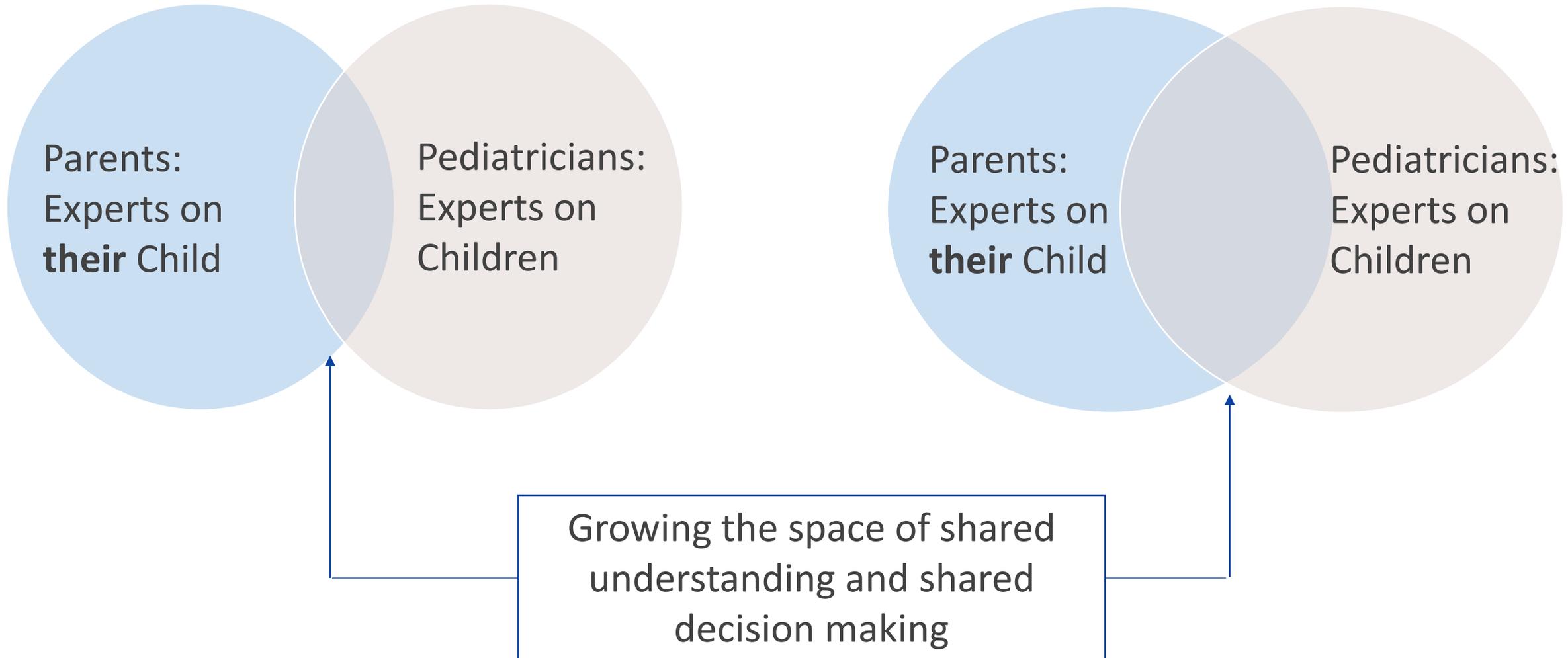
Timothy Leslie, PhD

- Associate Professor, Dept of Geography & Geoinformation Science
- George Mason University

Why is this important?

- Asthma is a multifactorial disease
 - Biological response
 - Social exposures
 - Environmental exposures
- Structural factors underly the increased prevalence of asthma among children of color and children or low economic status
 - Recognizing and accounting for these factors can improve and tailor management

Why is this important?



Key Terms

- Racism
- Social Risk Factors
- Social Need
- Clinical Curiosity
- Redlining

Racism

- System of structuring opportunity and assigning value based on the social interpretation of how one looks (race)
- Unfairly disadvantages some individuals and communities
- Unfairly advantages other individuals and communities
- Saps the strength of the whole society through the waste of human resources

Social Determinants of Health vs. Social Risk Factors

Social Determinants of Health

Conditions in the environments where people are born, live, learn, work, play, worship, and age positively or negatively affects

- Health
- Functioning
- Quality of life outcomes

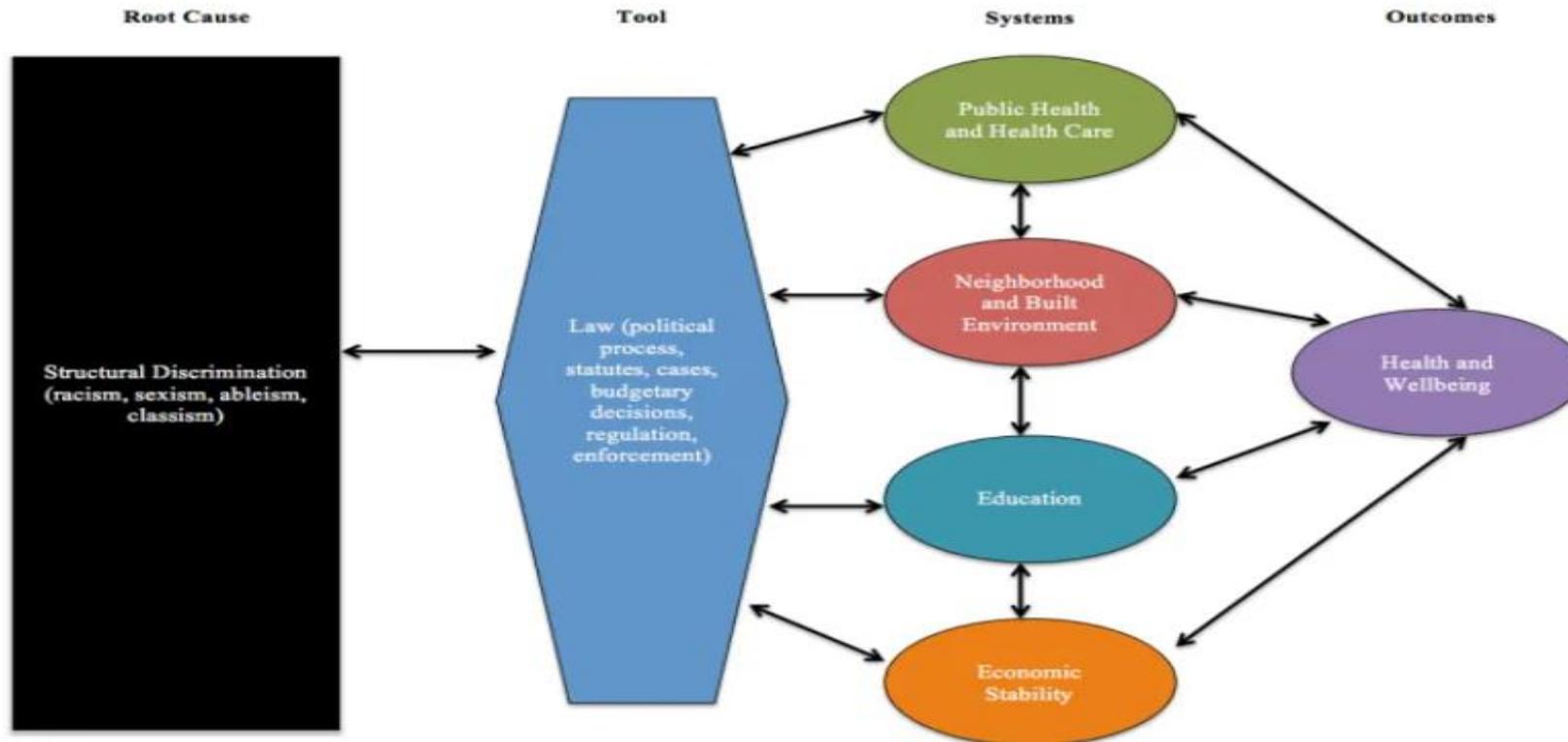
Social Risk Factors

Specific adverse social conditions that are associated with poor health

- Poverty
- Food insecurity
- Housing instability
- Uninsured or under-insured status



Racism Shapes Social Determinants of Health & Social Risk Factors

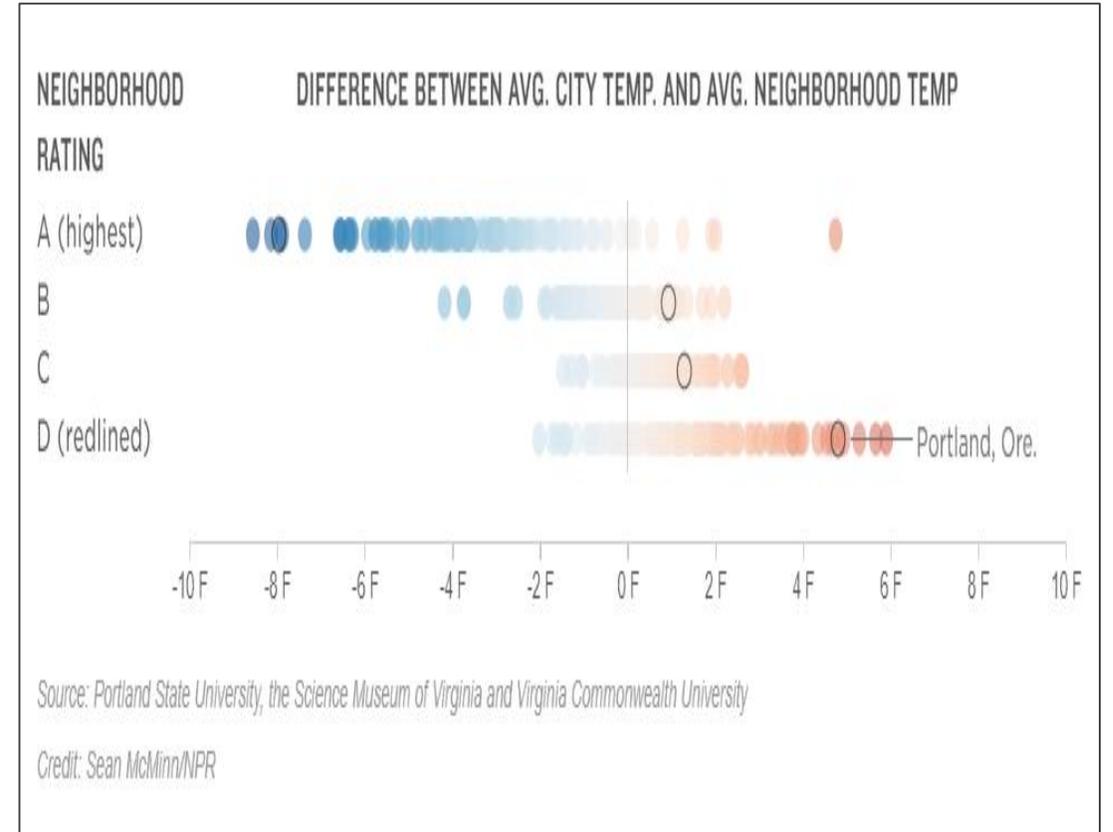
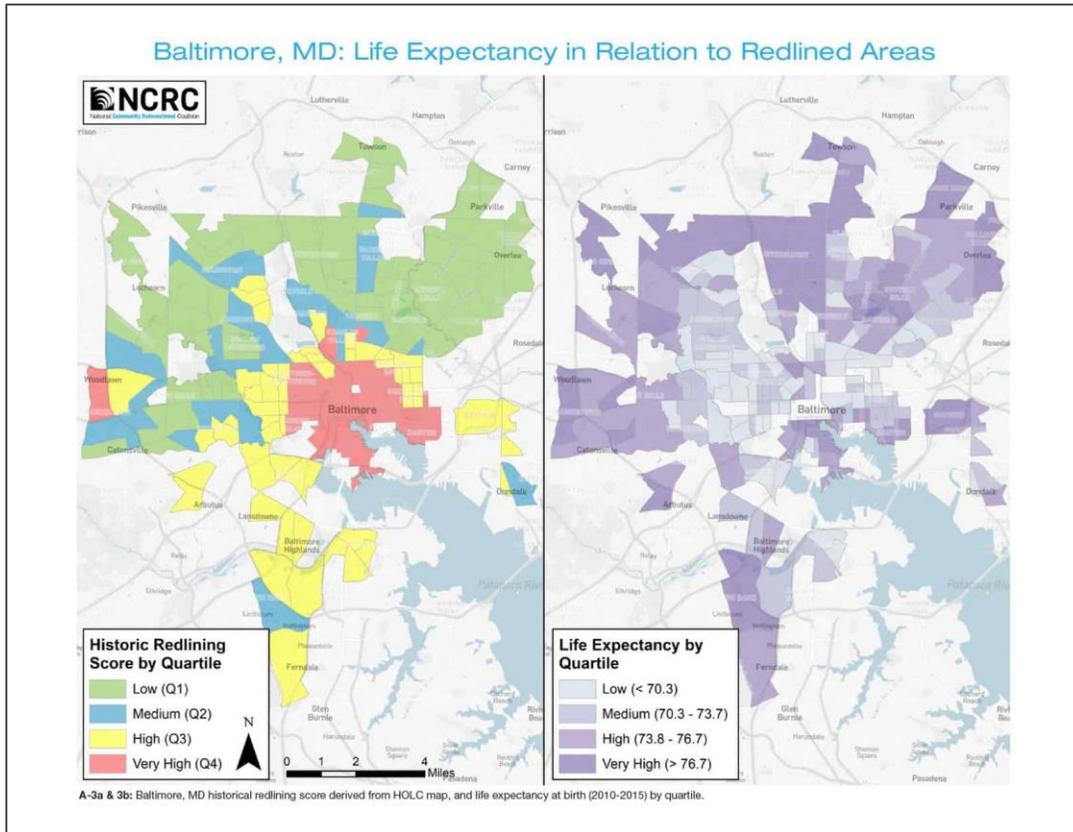


Revised SDOH Framework created by Ruqaiijah Yearby (2020)

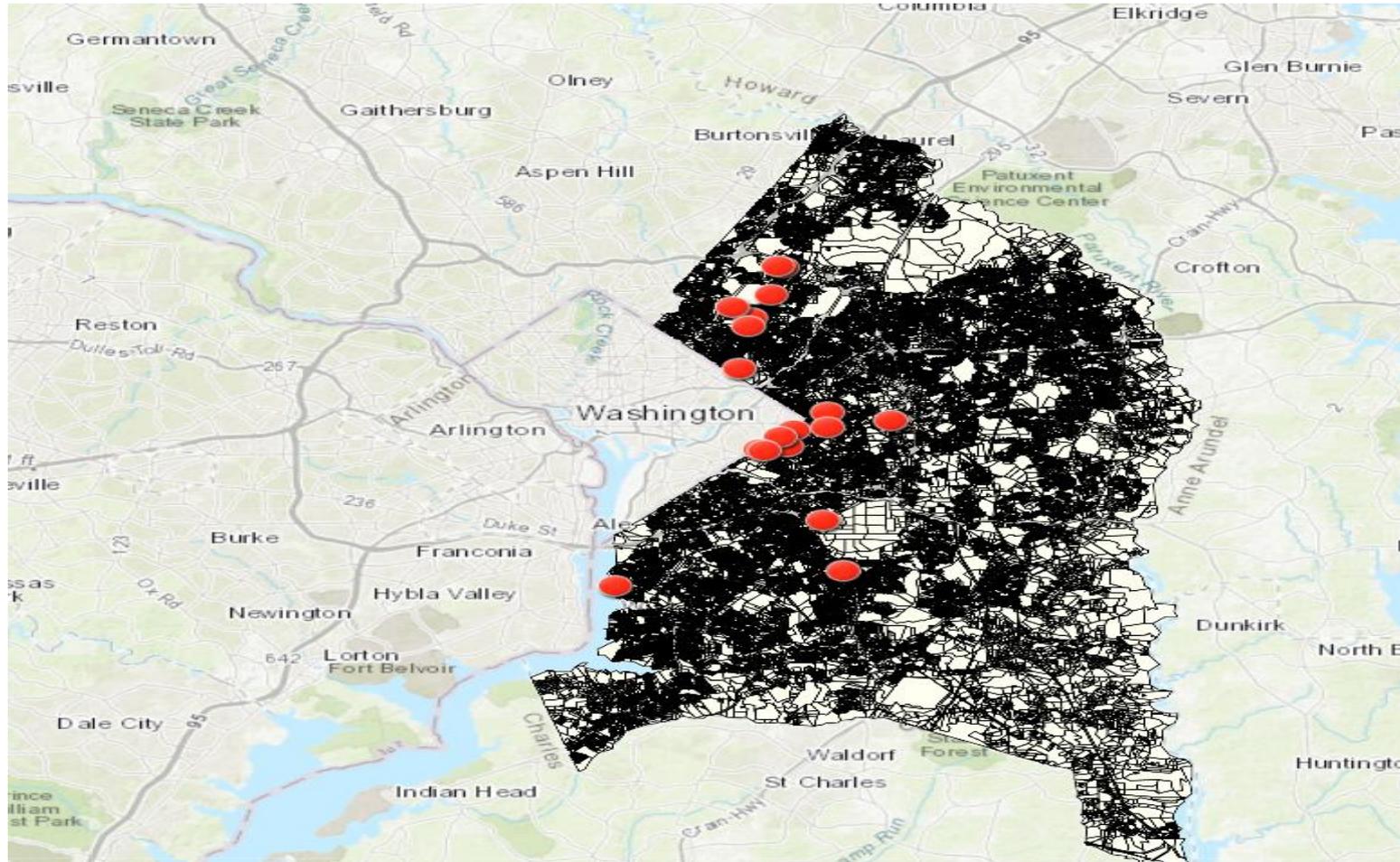
Redlining

- Systematic denial of various services or goods by governments or the private sector (typically financial) based on one's race or ethnicity
- Redlining in housing
 - Denied access to credit and insurance to borrowers in neighborhoods labeled as economically disadvantaged or with high percentage of minorities

Redlining and Lasting Effects



Redlining in Prince George's County



Social Need

- Depends on individual's or family's preferences and priorities
- Not synonymous with social risk
- Shared decision making crucial for making distinction and engaging family

Clinical Curiosity

- General and specific curiosity directed by health professionals to understanding and solving problems related to patient care
- Seeking to learn about patients, their conditions, and processes and contexts affecting treatments and prognosis

Key Points So Far

- Social determinants of health can be positive or negative
- Social risk factors associated with poor health outcomes
- Racism shapes social determinants of health and social risk factors
- Social need defined by families priorities and shared decision making
- Clinical curiosity can aide in learning about the conditions and priorities of our patients/families and improve shared decision making

Some Familiar Patients

Carla

3 year old with recurrent wheezing

- She has mild intermittent asthma and frequent wheezing, some associated with URI. Recent increase in wheezing episodes not associated with URIs.
- Trial of SABA plus 7-10 day course of daily ICS at the start of URIs.
- Evaluating for seasonal allergies and considering referral to allergist
- Any social factors to consider?



Curiosity About Social Stressors

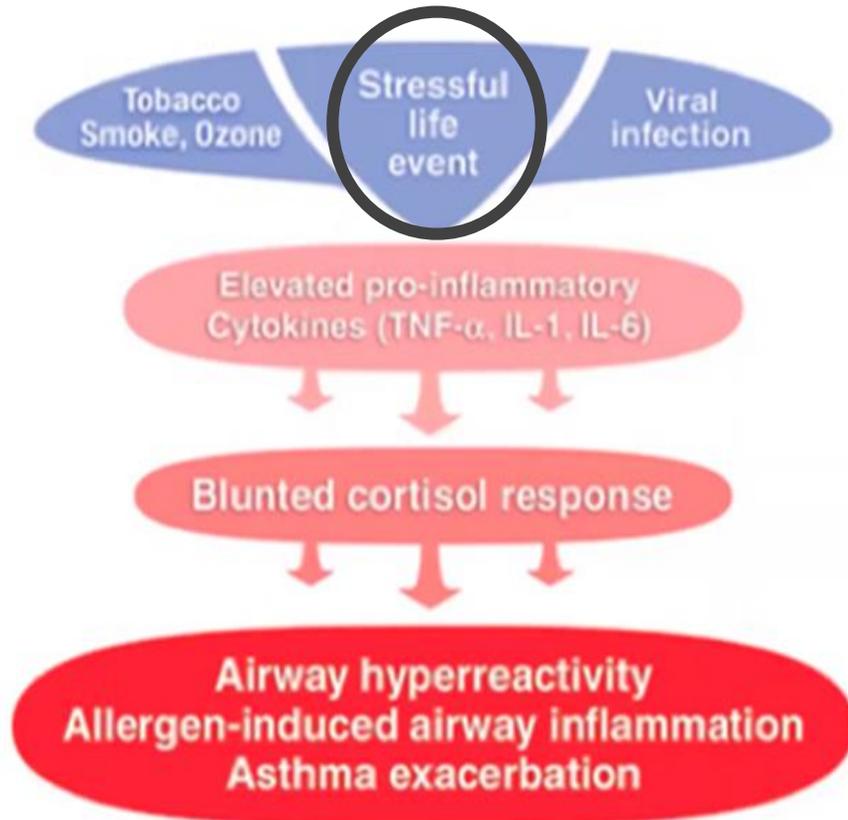
Has anything sad, bad, or scary happened to you or child in the last year?

- Evaluating traumatic experiences such as:
 - Recent moves or loss of employment
 - Death of family member
 - Domestic violence
 - Caregiver mental health
 - Immigration concerns
- An entry into discussing the mind-body connection
 - Stress induced asthma, emotions (ie fear, anger, etc) can trigger asthma

Our Patient:

- Tight-knit mixed immigration status Salvadorian-American household
- Grandmother (who cared for child while parents work) recently deported
- Mother managing depression
- Father's hours recently decreased, causing financial stressors

Asthma and Stress Connection



The National Committee on Asthma and Toxic Stress Select Consensus Statements

- Childhood stressors/adversity associated with early onset wheeze and/or asthma
- Caregiver stress and psychological impairment associated with asthma onset and morbidity throughout childhood
- Childhood stressors/adversity associated with glucocorticoid insensitivity and decreased sensitivity to adrenergic agonists which has implications for management

Curiosity About Social Stressors

Trauma-informed approach in addressing stressors

- Ensuring physical and emotional safety , responsiveness, collaboration in decision making
- Parent and/or child mental health support
- Promoting safe and supporting relationships within family to help buffer the stressor
 - **Parent-child relationships impact child health**
- Additional community supports
 - **Food resources**
 - **Utility payment assistance**
 - **Peer support**

Kevin

9 year old with mild persistent asthma and allergic rhinitis

Considering starting the Single Maintenance and Reliever Therapy (SMART) management.

- Parents are asking about possible allergic triggers and testing.
- You plan to refer to the allergist.



Curiosity About Living Conditions

Things inside the home can impact asthma symptoms and we are able to provide support in addressing some of them

Are there any of these exposures?

- Pests (mice, rats, roaches)
- Roaches
- Mold/mildew/water damage

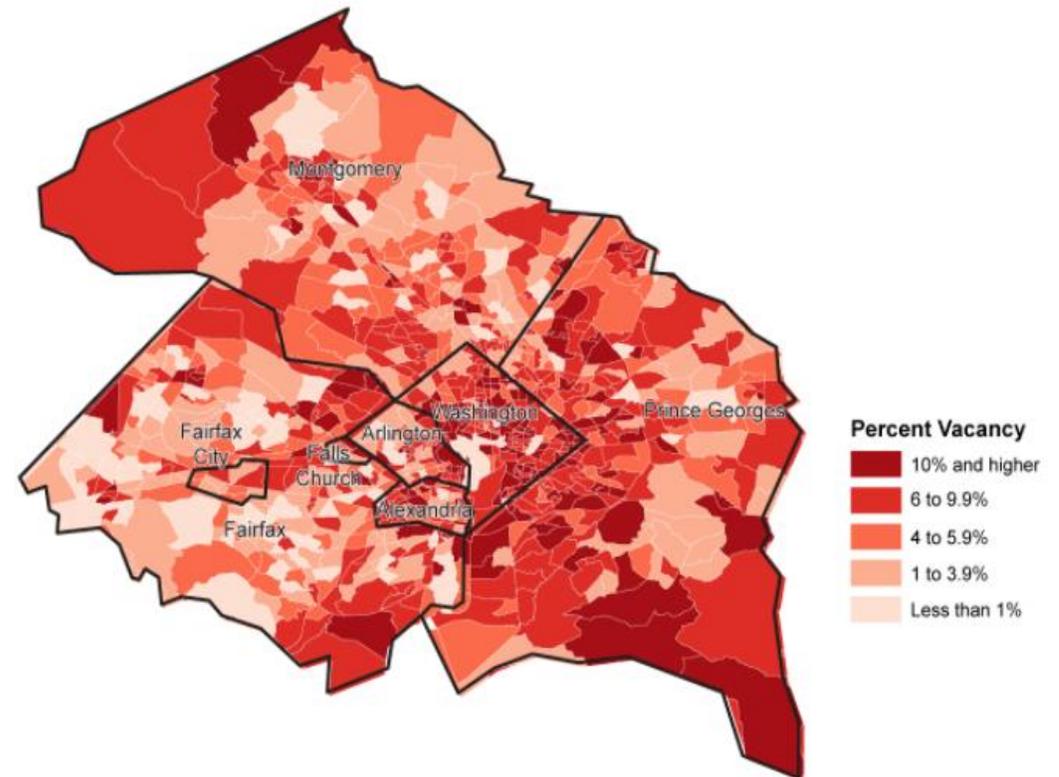
Our Patient:

- Lives in a Prince George's County
- Mother has filed landlord complaint about pest and mold
- A number of abandoned buildings in the surrounding area

Asthma & Housing Conditions

- Residential housing code violations associated with increased emergency department and hospital use in children with asthma
- Housing code violations correlated with census tract vacancy rates
- Vacancy rates
 - Health and environment indicator in the Child Opportunity Index
 - Negative impact on neighborhood value
 - Breeding ground for crime and violence
 - Correlation between redlined areas and vacancy maps in many cities

Housing Vacancy Rates in DMV Metro



Courtesy: Timothy Leslie, PhD

Curiosity about Living Conditions

Interventions to minimize indoor exposures

- Home evaluation and remediation
- Pest management
- Medical legal partnership
 - Protections and rights under the American with Disabilities (ADA) and Fair Housing Act (FHA) for people with asthma
 - Reasonable accommodations to facilitate moving

Legal Resources

- DC: Children's Law Center
- MD: Maryland Legal Aid and Disability Rights Maryland
- VA: Legal Services of Northern Virginia, Legal Aid Justice Center – Northern Virginia Office

Joey

14 year old with moderate to severe asthma.

- Per recent updated guidelines he was placed on SMART therapy at the last visit.
- You have also addressed adherence and environmental triggers but he continues to have > 2 days a week of symptoms that require albuterol.
- He was seen in the emergency department last week and required systemic steroids.
- You consider a referral to the pulmonologist.



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Curiosity About Environmental Conditions

The environment inside and outside of the home impact asthma symptoms

How would you describe the neighborhood where you and your child live?

Are there any of the following near your home?

- Factories
- Bus depot
- Highway

Our Patient:

- Lives in Fairfax county
- Apartment is next to highway
- Walks to school and passes a power plant on his route
- Plays football and practices outdoors

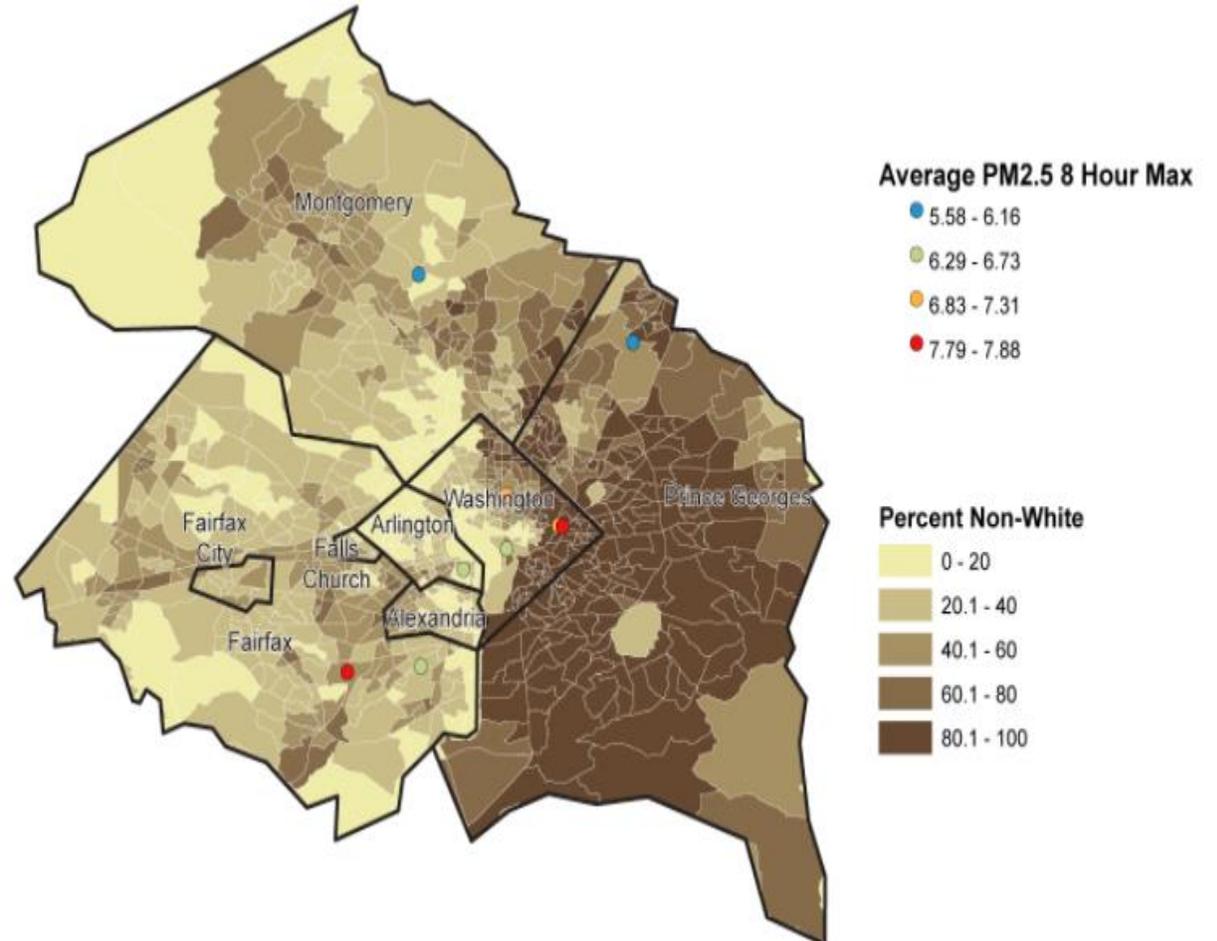
Asthma and Environmental Conditions

Environmental Protection Agency (EPA) tracks and sets air quality standards for air pollutants

- Ozone (O₃)
- Particulate matter (PM 10 and PM 2.5)
- Carbon Monoxide
- Nitrogen Dioxide (NO₂)
- Sulfur dioxide (SO₂)
- Lead (Pb)

PM 2.5

- Construction sites, unpaved roads, fields, smokestacks or fires, vehicles, power plants
- Due to small size that can be inhaled deeply into the lungs and cause damage
- Linked with increased asthma medication use and increased exacerbations
- Disproportionately and systematically harms people of color



Courtesy: Timothy Leslie, PhD

Pediatric Asthma During COVID Shutdown

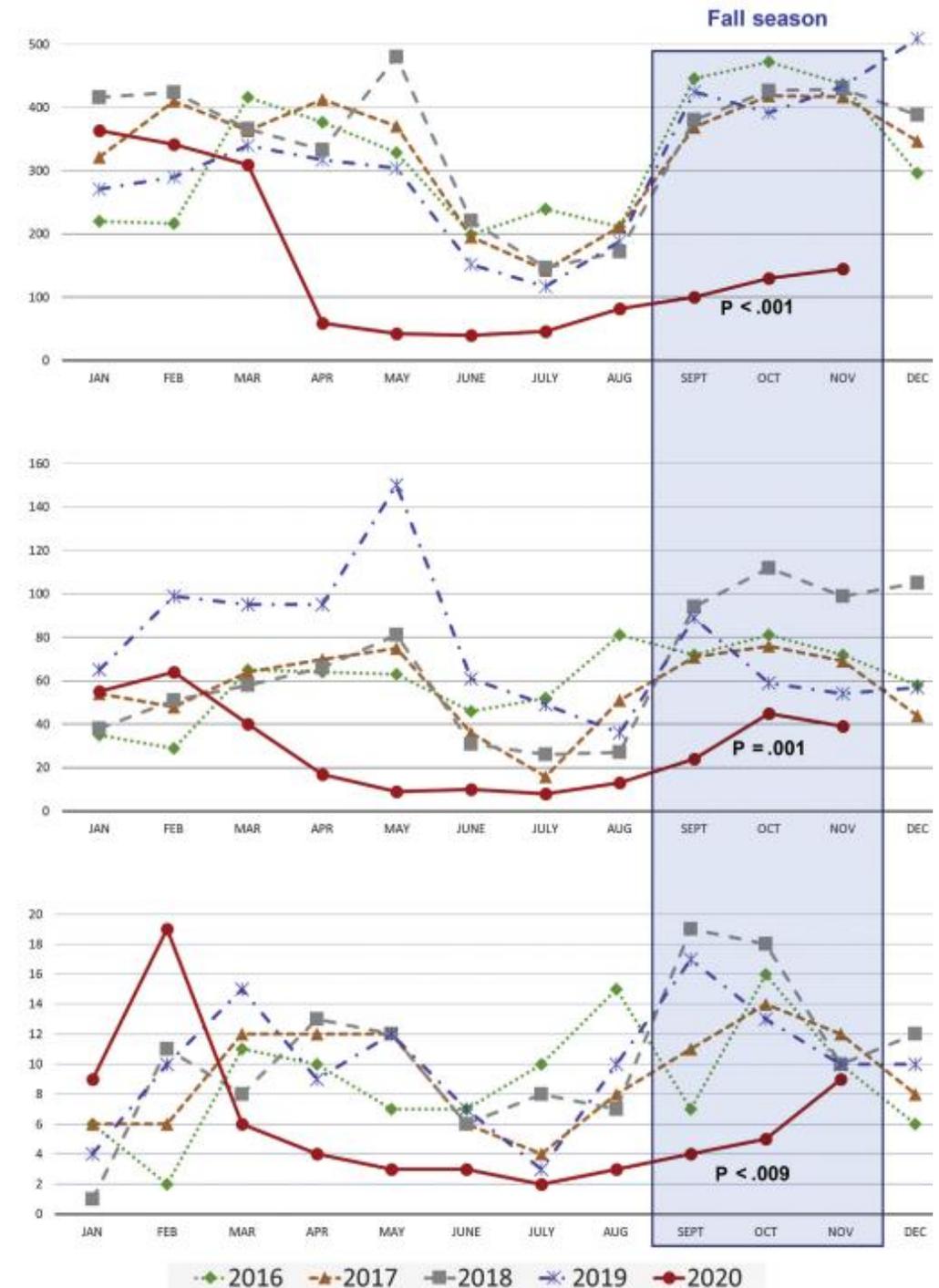
Significant decrease in emergency room visits, hospitalizations, and intensive care admission for asthma

- Locally, nationally, internationally
- Absence of “September asthma epidemic” in DC metro area

Possible factors:

- Avoidance of healthcare facilities
- Social distancing
- Hygiene practice
- Decreased exposure to outdoor aero-allergens
 - Staying indoors
 - Less cars on the road

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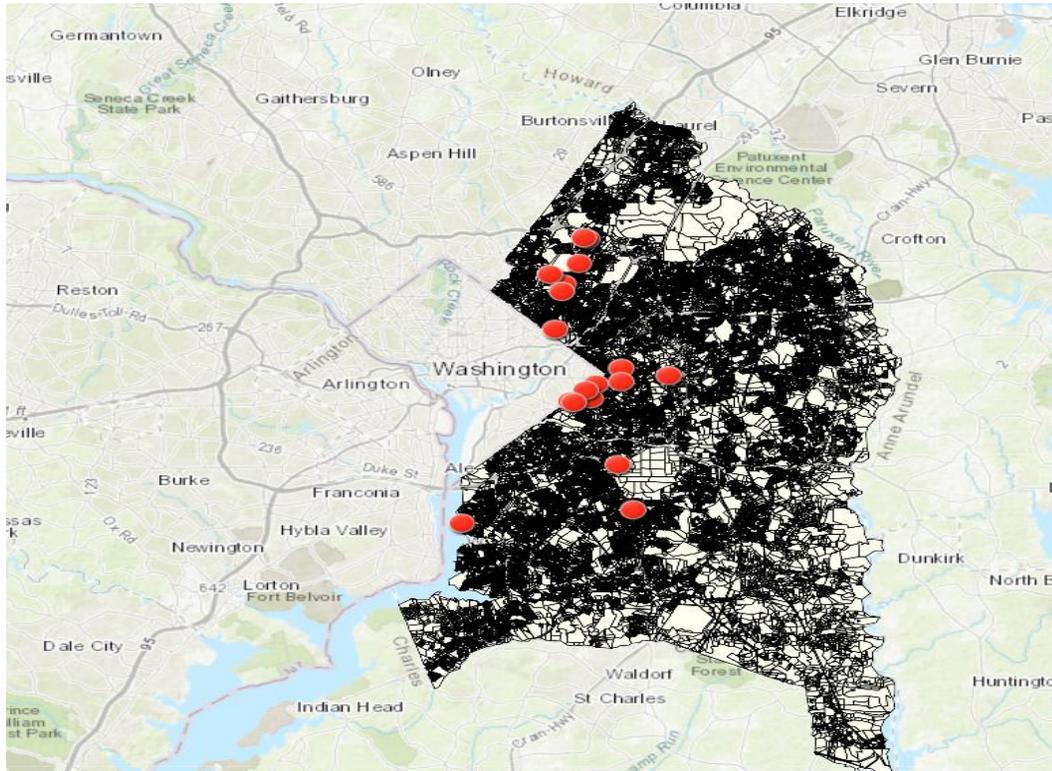
Curiosity About Environmental Conditions

Interventions to minimize impact of outdoor exposures

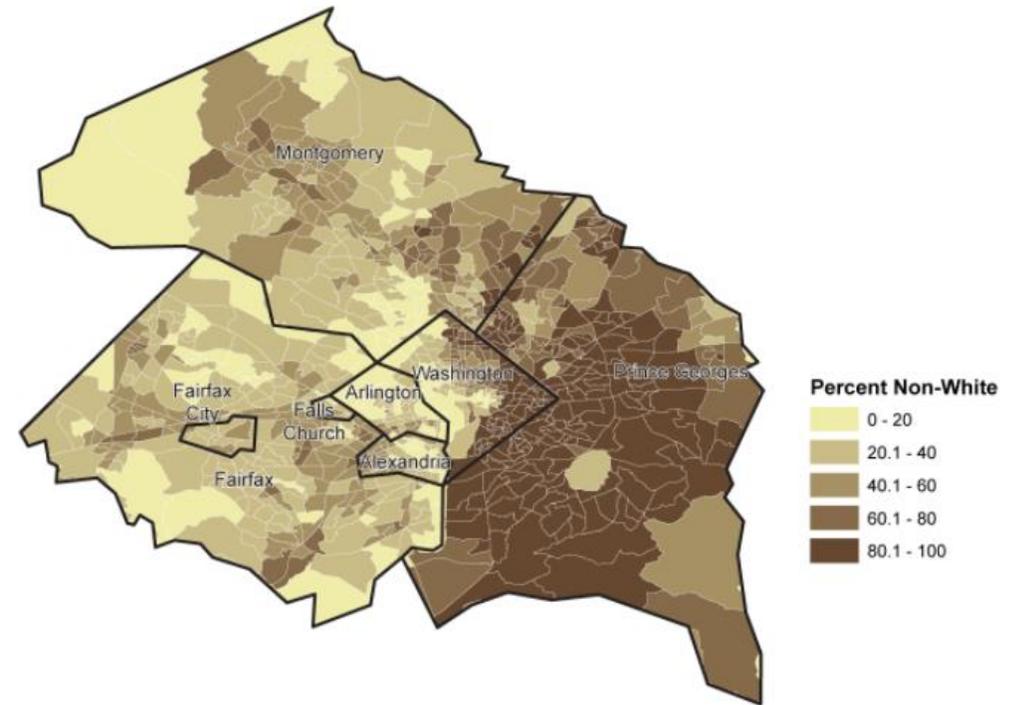
- Paying attention to weather reports and limiting outdoor activity on high smog alert days
- Adding avoidance of vigorous activity on poor air quality days to asthma action plan
- Evaluating albuterol pre-treatment prior to exercise or other outdoor activities
- Living greater than .2-.3 miles (300-500 meters) from highway to minimize exposure to vehicle emissions

Interconnection of Place and Race

Redlining in PG County



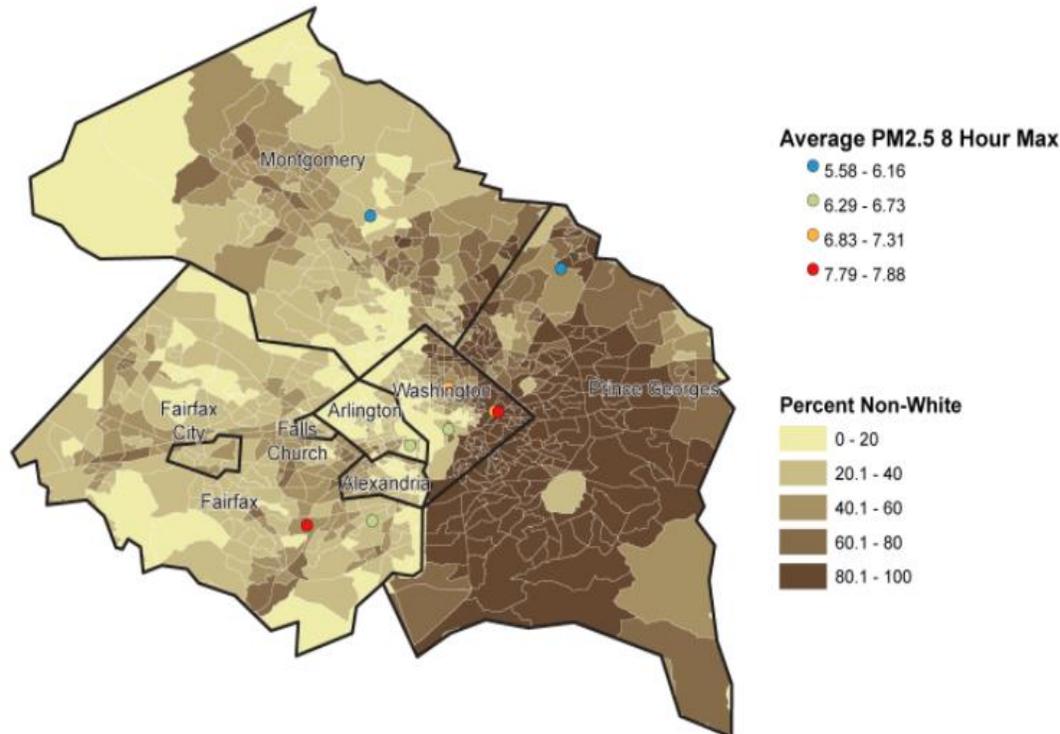
Spatial Distribution by Race – DMV



Courtesy: Timothy Leslie, PhD

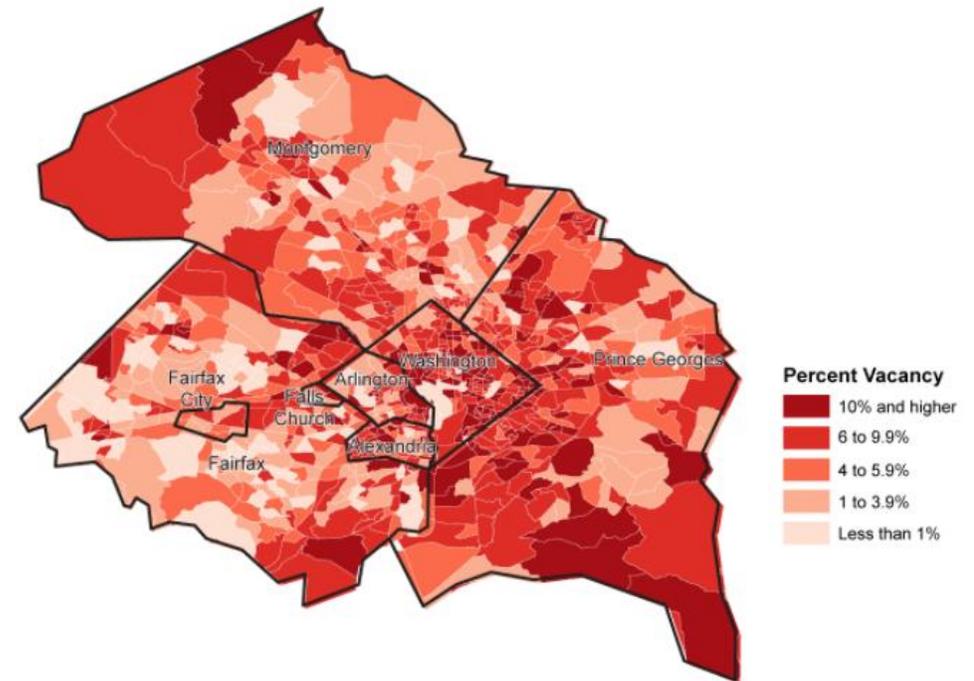
Interconnection of Place, Race, and Social Risk Factors

Air Quality



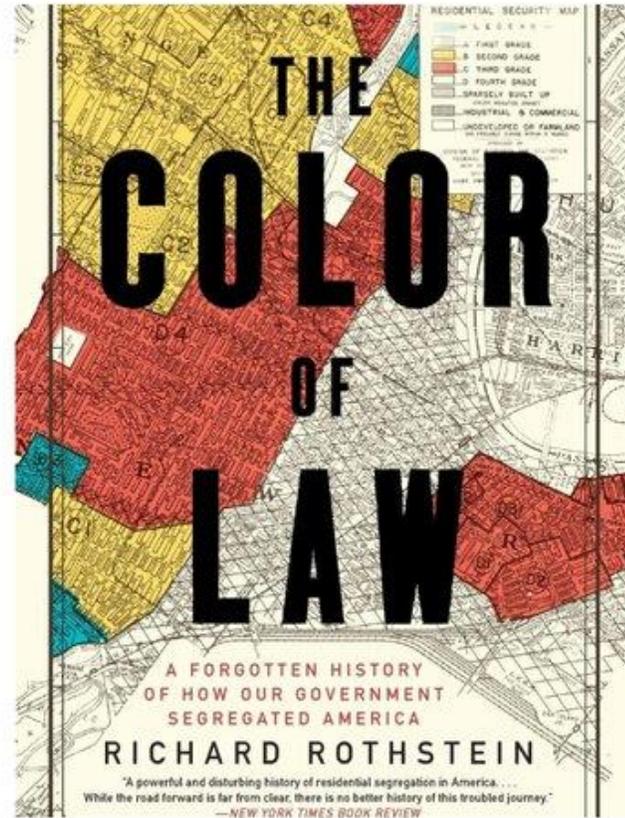
Courtesy: Timothy Leslie, PhD

Housing Vacancies



Courtesy: Timothy Leslie, PhD

Curious?



Key Points

- Social determinants of health can be positive or negative
- Social risk factors associated with poor health outcomes
- Racism shapes social determinants of health and social risk factors
- Social need defined by families priorities and shared decision making
- Clinical curiosity can aide in learning about the conditions and priorities of our patients/families and improve shared decision making

Thank you

If you have any questions or comments, please email
phn@childrensnational.org

DC Health Matters CONNECT

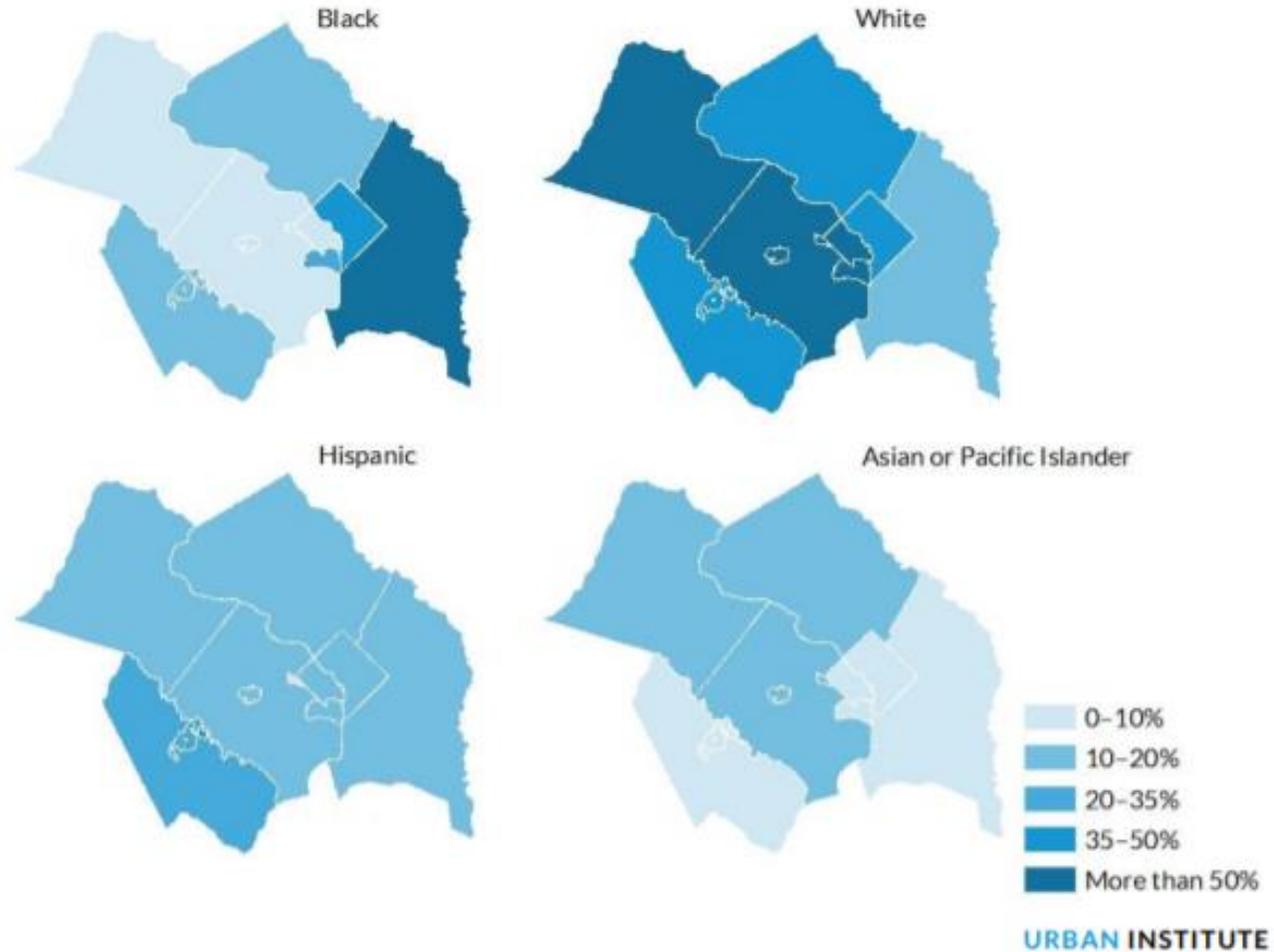
Connecting your Patients with Social Needs Resources

- Tool powered by Aunt Bertha to connect patients in your practice with resources in their community
- Practice interest: Integration (EMR dependent) or advanced portal access to utilize available tools?
 - Closed loop referral system, team-based approach to managing referrals, data on resources used

The screenshot shows the DC Health Matters Connect website. At the top left is the logo "DC Health Matters Connect". At the top right are links for "Support", "Sign Up", and "Log In". The main content area features a search prompt: "Search for free or reduced cost resources or services to help support your health and well-being." Below this is a search bar with the text "ZIP 20002" and a "Search" button. To the right of the search bar is a graphic of a blue diamond shape with a yellow arrow pointing right, labeled "DC Health Matters Connect". Below the search bar is a section titled "Supported by DC Health Matters Collaborative" with a paragraph of text. At the bottom of the page are four icons: "How-To Connect", "Community Health Data", "Collaborative Blog", and "Census 2020".

Extra Slides

Spatial Distribution by Race and Ethnicity by Jurisdiction in the DC Region 2011-15



Source: American Community Survey, 2011-15.

Note: The categories used in these maps are mutually exclusive (e.g., black is non-Hispanic black).