





### **Is Equity Enough?**

# How Healthcare Systems Can Breakdown Structural Barriers to Economic Mobility

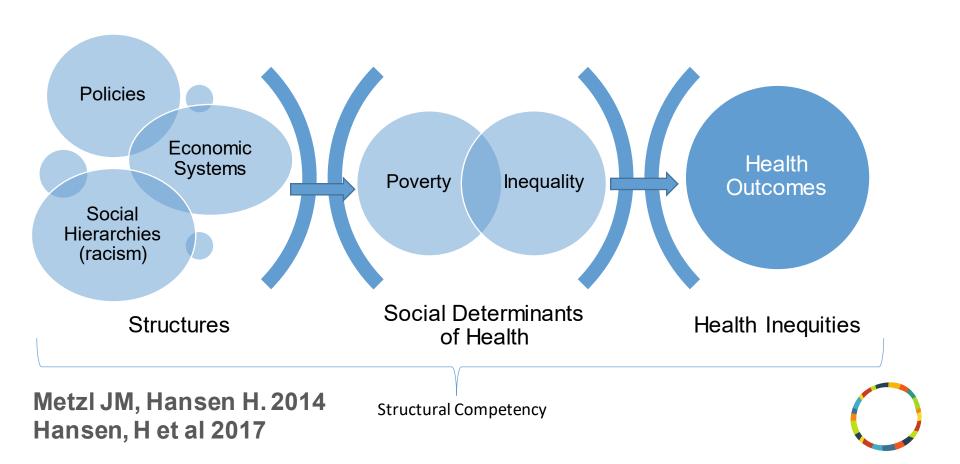
Megan Sandel MD MPH October 5, 2021

# Roadmap

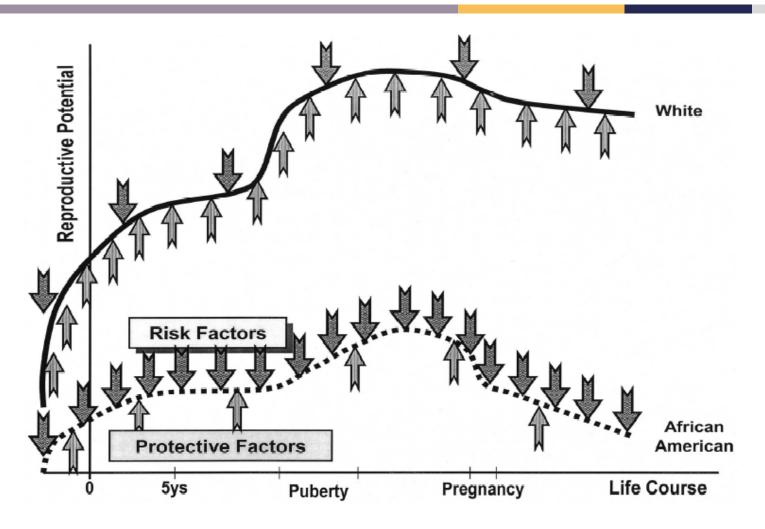
- 1. Structural Competency is part to Moving Upstream to Address Root Causes of Asthma Inequities
- 2. How are Disparities in Outcomes are Built
- 3. How Inequities in Outcomes are Driven by Social Determinants of Health
- 4. Structures create the Economic and Environmental Factors driving Inequities on Multiple Levels
- 5. How Healthcare can breakdown Structural Barriers



# Structural Competency includes understanding Structures, Social Determinants of Health and Health Inequities

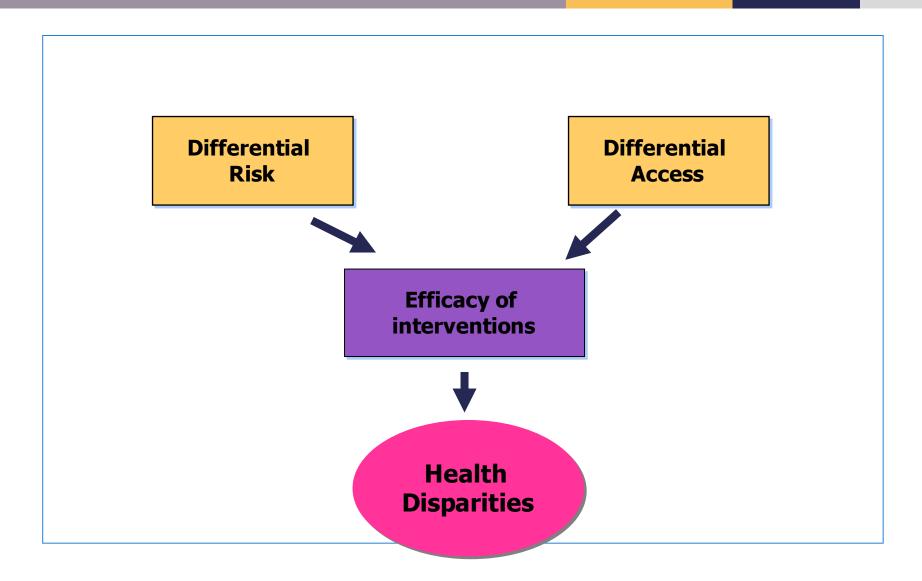


## Life Course differs by Risk/ Protective Factors



Source: Lu MC, Halfon N. Racial and ethnic disparities in birth outcomes: a life-course perspective. Matern Child Health J. 2003;7:13-30.

## Risk, Access, Efficacy and Disparities



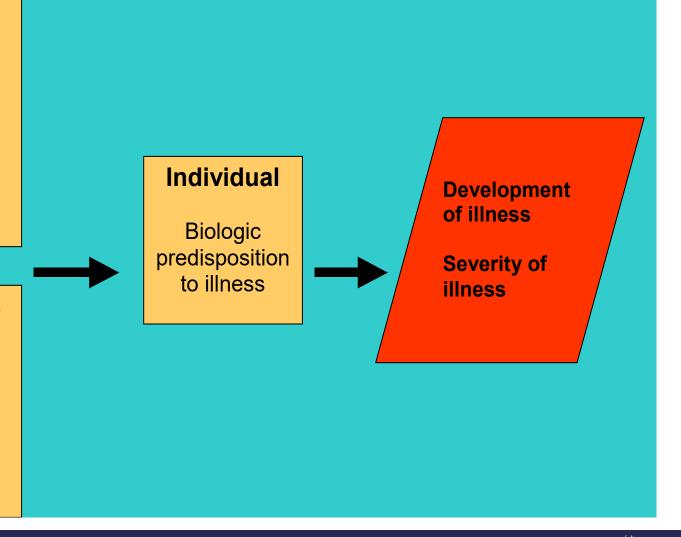
## Social Risk Factors & Health Disparities

#### **Increased Risk**

- Poverty
- Poor housing quality
- Environmental exposures
- Poor nutrition/ Food insecurity
- Safety

#### **Decreased Access**

- Language barriers
- Geographical barriers
- Inadequate health insurance
- Lack of benefits

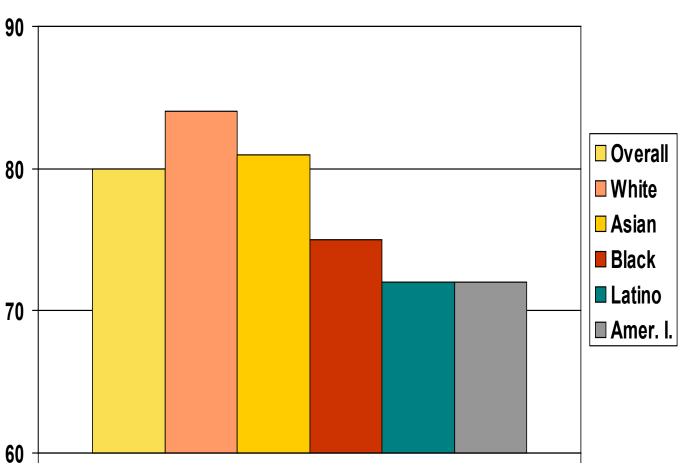


### Childhood Acute Leukemia Survival Differ by Race

Overall 5 yr survival 5% in 90 1950s

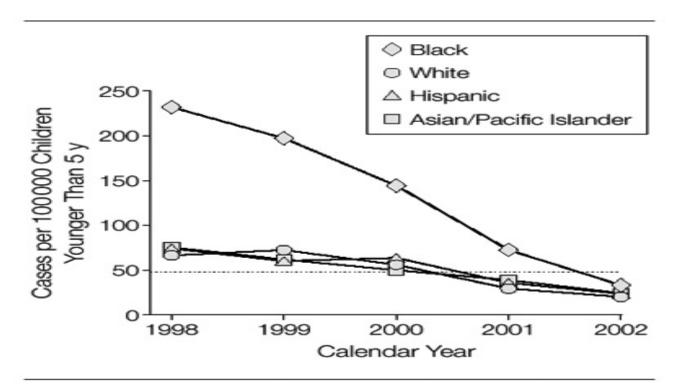
■ > 80% now

 But differs significantly by Race



 Source: Kadan-Lottick, et al., JAMA Oct 2003

#### **Declining rates of Invasive Pneumococcal Disease**



Rates for racial categories include case-patients identified as Hispanic. Hispanic rates prior to 2000 are calculated using the 2000 US estimate as the denominator for each year of surveillance. Incidence rates for persons of Hispanic ethnicity represent all case-patients identified as Hispanic, regardless of race. Dotted line indicates *Healthy People 2010* target of 46 cases per 100000 children younger than 5 years.<sup>6</sup>

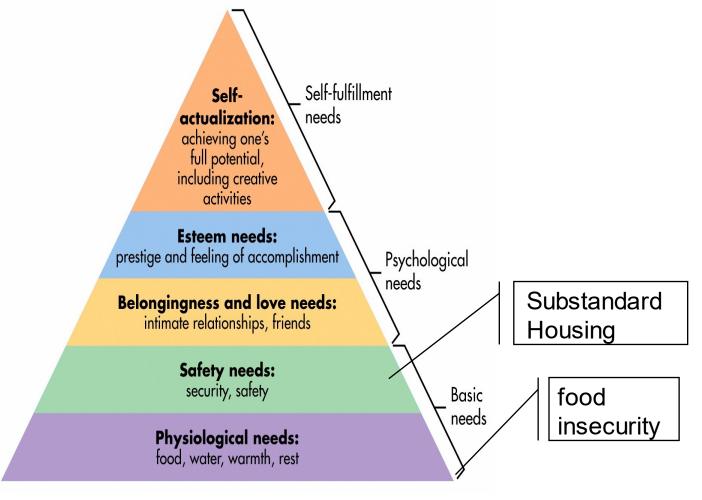
Flannery, et al, JAMA, May 2004

#### Social Factors Drive Health Positively and Adversely



SDOH are the structural factors and conditions in which people are born, grow, live, work

# Why Foundation of Positive Health Lies with Addressing Basic Needs



An interpretation of Maslow's Hierarchy of Needs



## **Dimensions of Housing and Health Research**



Taylor, L. *Health Affairs*, 2018



## **Evidence on Home Quality**

- Accidents/Injuries exposed wiring, needed repairs
- Development and worsening asthma, allergies tied to home
  - Pests (cockroaches and mice)
  - Molds/Chronic Dampness
  - Tobacco smoke
- Lead exposure tied to long term effects
  - Developmental delay, Attention deficit
- Heat or eat Skinner et al. 2014

## **Home Quality and Mental Health**

## MacArthur Foundation HOW HOUSING MATTERS

macfound.org/HousingMatters

POLICY RESEARCH BRIEF

#### Poor Quality Housing Is Tied to Children's Emotional and Behavioral Problems

Parents' stress from lt takes a

by REBEKAH LEVINE COLEY, TAMA LEV ALICIA DOYLE LYNCH, AND MELISSA K

SEPTEMBER 2013

family's home is their haven, be likes living with leaking roofs a for those who have to choose be ing for rent or for food, or for for repeatedly move in search of hi or more affordable housing, one's place of refugivery homey.

This brief examines how housing characteristic children and families' well-being.' Among the ve bilities tested, poor housing quality was the mo and strongest predictor of emotional and beha lems in low-income children and youth. It also I association with school performance among of Housing affected children because the stress unhealthy and unsafe conditions affected paren

#### Advantages of the Current Study

Past research has identified several aspects that are thought to be associated with childrement.<sup>2</sup> Researchers, for example, have found it dard housing—exposed wiring, peeling lead p infestation, and the like—may contribute to p stress in children, inhibiting their emotional s terming, Similarly, residential instability may in

- Poor housing quality strongest predictor of emotional and behavioral problems in low-income children
- Much of association between poor housing quality and children's wellbeing operates through parental stress, parenting behaviors and mental health





# CHILDREN'S HealthWatch

Improving the health and development of young children by informing policies that address and alleviate economic hardships

# CHILDREN THRIVE WHEN WE RESPOND TO THEIR REALITIES

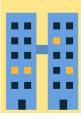
Sign up and stay informed Visit www.childrenshealthwatch.org

#### SINCE OUR LAUNCH IN 1998,

### 75K+ FAMILIES

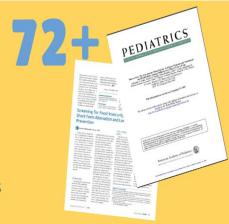
We have interviewed more than 75,000 caregivers of young children under 4 years of age in pediatric emergency rooms and clinics





A nonpartisan network of pediatricians, public health researchers & policy experts, we bring data & analysis from the front lines of care in Boston, Baltimore, Philadelphia, Little Rock & Minneapolis PEER REVIEWED
JOURNAL ARTICLES

Our researchers have made landmark contributions to the understanding of how public policies and economic hardships impact children's health



Leveraging the perspective of pediatricians, our research and advocacy has improved public policies (nutrition, housing, antipoverty) and practices that give all children equal opportunities for healthy, successful lives



POLICY PUBLICATIONS

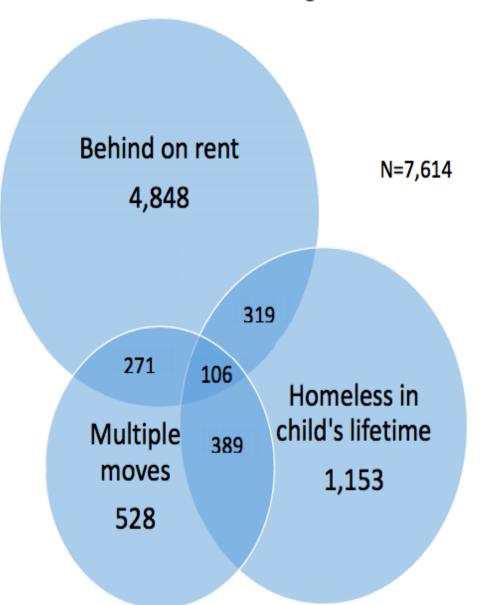
Our policy briefs and reports have helped national and state policymakers better understand the social and economic factors that impact children's health so they can make well-informed decisions

# Exploring three forms of unstable housing with caregiver and child health

- Among 22,234 families, 34% had at least one adverse housing circumstance:
  - 27% behind on rent
  - 8% multiple moves
  - 12% history of homelessness
- Each circumstance individually associated with adverse health and material hardship compared to stable housing



#### Number of adverse housing conditions

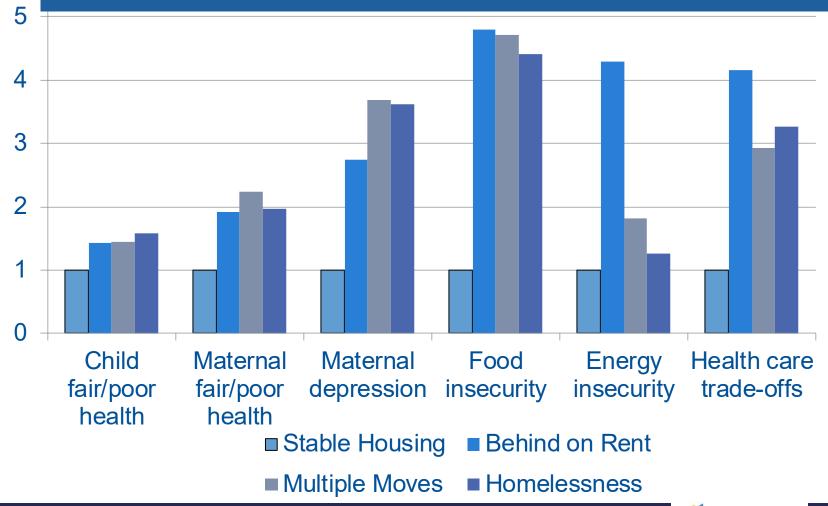


# Little overlap among three adverse housing conditions

Most families were behind on rent and impacted health



# Outcomes of unstable housing with health and material hardship outcomes



## **Neighborhood Segregation and Opportunity**

# Neighborhood child opportunity index (maps) for 100 largest metro areas



#### Compare and Analyze Data

Dedicated area of site for Child Opportunity Maps for 100 largest metro areas

Select a Tool to Start	Topics	What You Can Do
PROFILES Create a custom profile for a selected location	Child Demographic & Wellbeing Indicators  Demographics Education Economic Health Neighborhoods Policy And more	<ul> <li>Analyze data by race/ethnicity</li> <li>Compare data across states,</li> </ul>
RANKINGS Sort and rank data		metropolitan areas, counties, large cities, and large school districts  Compare policy indicators across states
MAPS Visualize your data geographically		
CHILD OPPORTUNITY MAPS Map the geography of opportunity for children	Child Opportunity Index measuring neighborhood opportunities for children	<ul> <li>Explore metropolitan area maps o the newly developed Child Opportunity Index</li> </ul>
POLICY/ANALYSIS Read policy equity analysis	Policy Analysis for key policies affecting child wellbeing and opportunities	Obtain equity analysis of social policies affecting children

## **Child Opportunity Index**

#### diversitydatakids.org-



#### **Educational Opportunity**

- Student poverty rates in local schools
- School quality in local schools (student proficiency)
- Early childhood education (ECE) indicators:
  - · Proximity to centers / high-quality centers
  - Participation patterns
- High school graduation rates
- Adult educational attainment

#### **Health & Physical Environment**

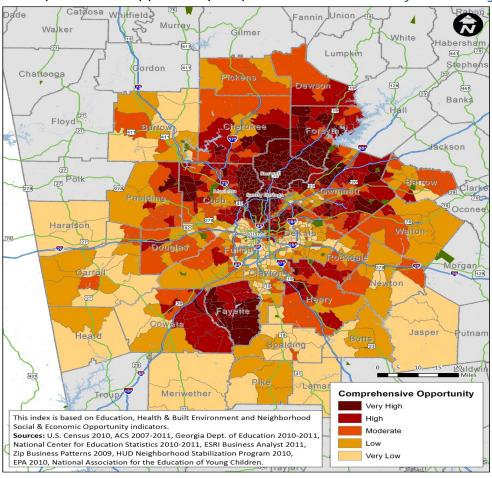
- Proximity to health facilities
- Retail healthy food environment
- Proximity to toxic waste and release sites
- · Volume of nearby toxic release
- Proximity to parks and open spaces
- Housing vacancy rates

#### Neighborhood Social & Economic Opportunity

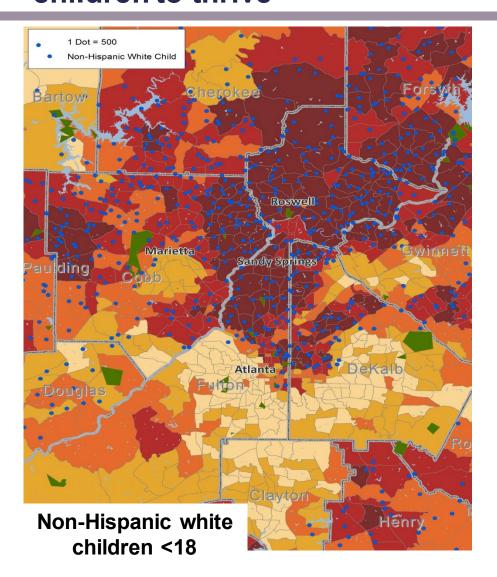
- Foreclosure rate
- Poverty rate
- Unemployment rate
- Public assistance rate
- Proximity to employment

#### Atlanta-Sandy Springs-Marietta, GA MSA Comprehensive Opportunity Map

Kirwan Institute
Many Differences One Destiny
diversity datakids.org

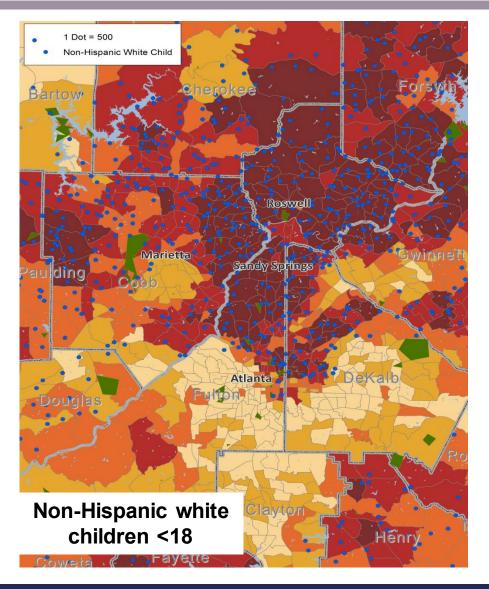


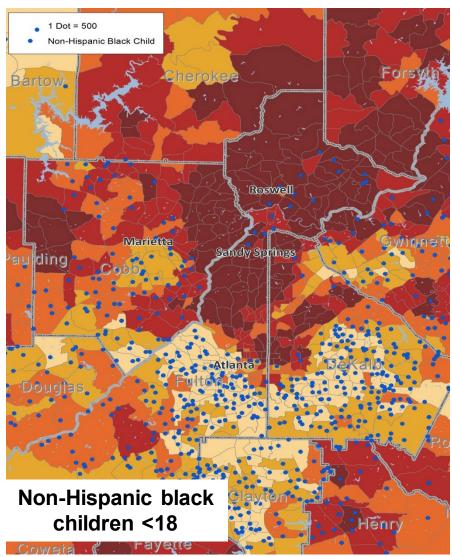
# In Atlanta, stark white-black inequities in opportunities for children to thrive



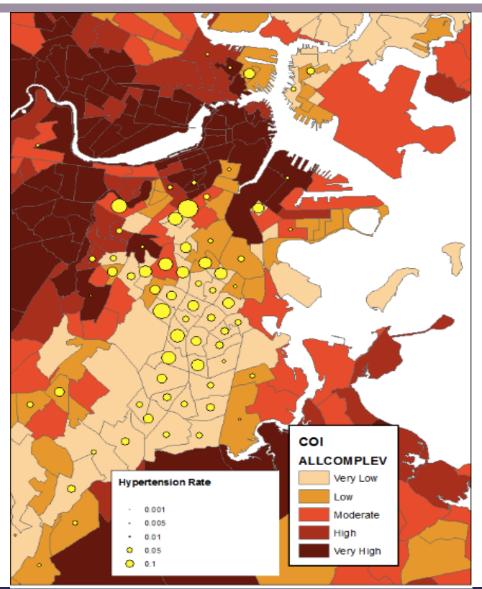
- The Child Opportunity Index is race-neutral (no race-specific measures go into the index).
- We first create the opportunity map and then overlay the child population by race to see how the location of opportunities compares with the location of children...
- Here is the white child population in Atlanta concentrated in highopportunity neighborhoods.

# In Atlanta, stark white-black inequities in opportunities for children to thrive





### Place, Opportunity, and Health

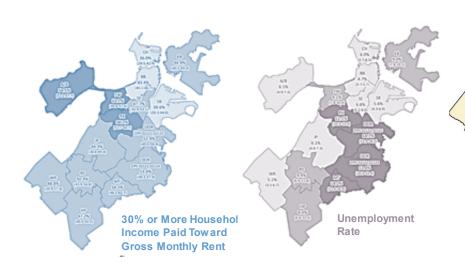


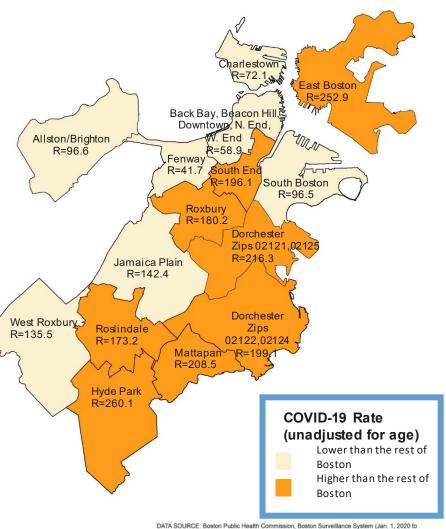
- Mapping elevations in the blood pressure of 3 years olds by Child Opportunity Index from diversitydatakids.org
- Vital Village Network at Boston Medical Center maps relationship between opportunity and life course (elevated BP at age 3)

Sandel et al Academic Pediatrics 2016

# Deep-Rooted Inequity Across Lifespan & COVID-19

Without coordinated and systems-level investments, legacies of discrimination and disinvestment will be compounded by the health and economic effects of COVID-19. Residents will find themselves fenced off from the paths to prosperity previously afforded to those privileged by society.

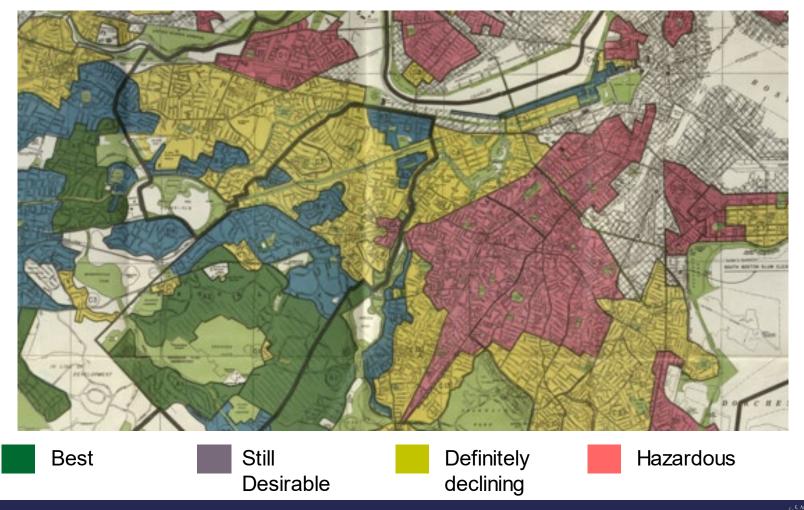




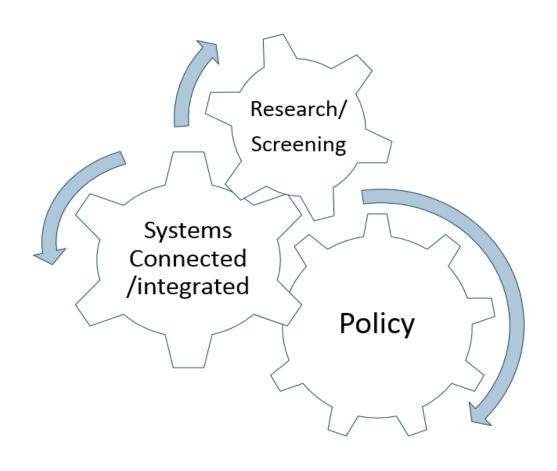
DATA SOURCE: Boston Public Health Commission, Boston Surveillance System (Jan. 1, 2020 to May 7, 2020, 1:32pm); Massachusetts Department of Public Health, Massachusetts Virtual Epidemiologic Network (Jan. 1, 2020 to May 7, 2020, 1:32pm); U.S. Census Bureau, American Community Survey, 2018 5-yr estimates (2014-2018)
DATA ANALYISI: Boston Public Health Commission, Research and Evaluation Office

## Understanding how Structures created the disparities is the foundation for seeking long term solutions

Federal Housing Authority practice of redlining denied mortgages to African American and Low Income Populations



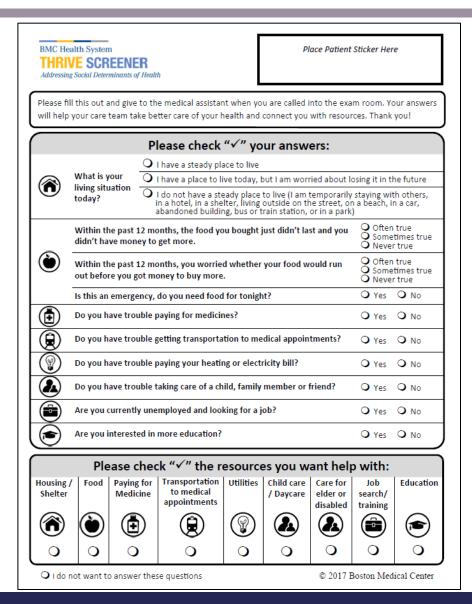
# Changing the Social Risks and Increasing Access to the Efficacious Interventions



**Promoting** Health Equity Through Screening, Systems, and Policy work as Anchor Institution



## Identifying and sharing SDOH needs is a critical component of our ACO work and the THRIVE Screener allows us to advance this effort



The tool helps us **assess patients' needs** in the following domains:

Housing

Utilities

Food

- Caregiving
- Affording medications
- Employment

Transportation

Education

The tool **engages patients** by asking if they want help connecting to resources and provides them with **immediate access to referral guides** available in six languages\*

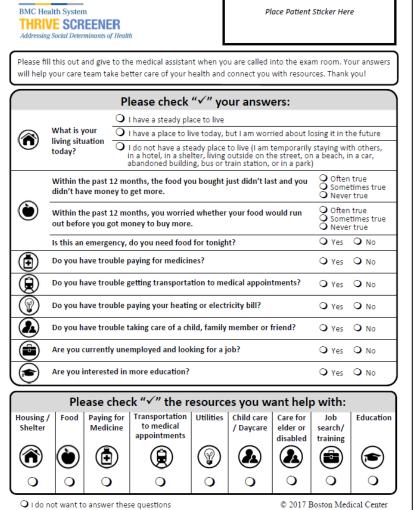
The screener & referral guides are integrated seamlessly into the clinic's Epic workflow.

- Positive screens prompt ICD-10 codes
- Requested referral guides print in the room

#### Systems can be Co-Located and Connected









#### **Three Sectors Address** Social Determinants of Health in Silos

#### **HEALTHCARE**

treats illnesses caused or exacerbated by SDOH.

#### **LEGAL AID**

ensures access to benefits & services, enforces laws that keep people healthy.

#### PUBLIC HEALTH

tracks diseases on population level, addresses laws & education aimed at prevention.



Individual patient legal interventions are pathways to finding the policy interventions for improving population health.





#### **NOTICE TO ALL RESIDENTS**

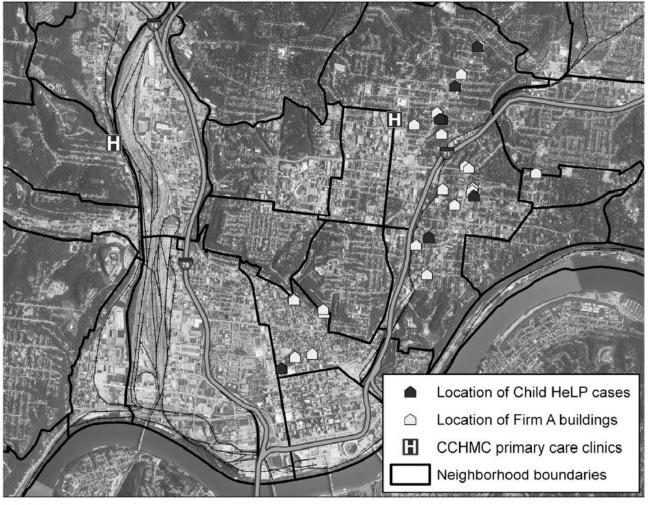
May 24, 2010

At this time all residents are not permitted to install any a/c units for your apartment.

Anyone with an a/c unit will be evicted immediately.

Thank you Management











#### **Community Builders Solution!**







Identifying and Treating a Substandard Housing Cluster Using a Medical-Legal Partnership

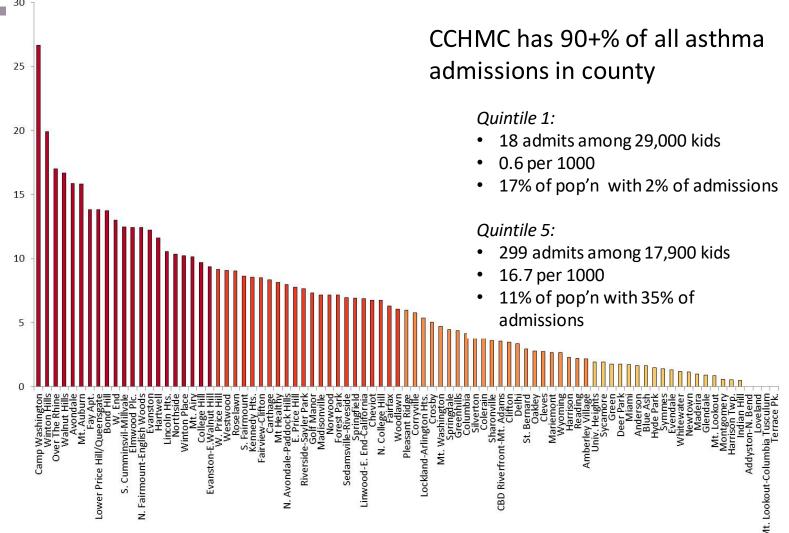
Andrew F. Beck, Melissa D. Klein, Joshua K. Schaffzin, Virginia Tallent, Marcheta Gillam and Robert S. Kahn

Pediatrics; originally published online October 22, 2012;

DOI: 10.1542/peds.2012-0769



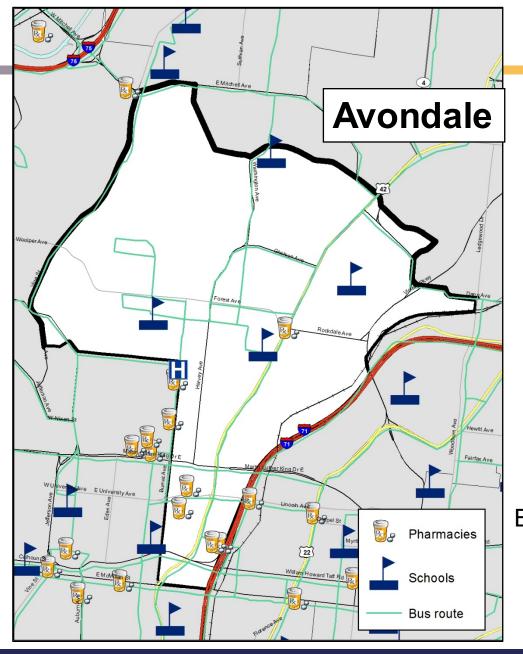
#### Asthma admission rate per 1000 children, 3 year average (2010-2012)





Beck (2013)

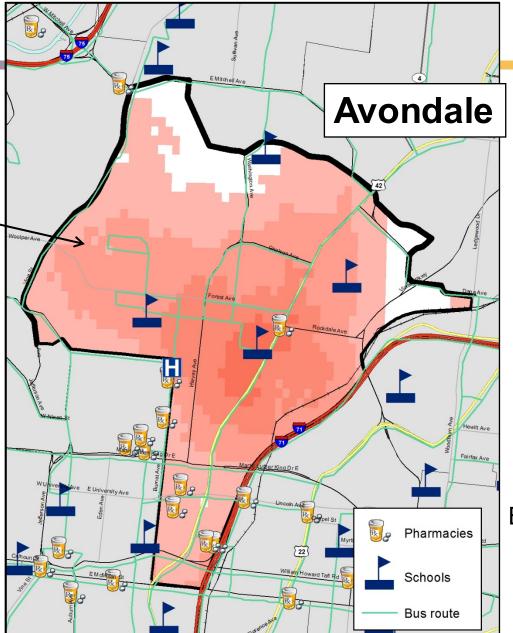






Beck & D. Jones (2014)





"Heat

map" of

building

code

violations



Beck & D. Jones (2014)

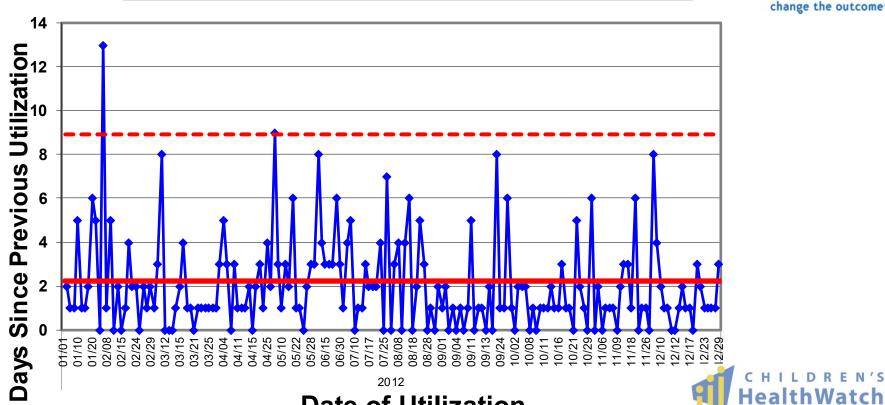


### Avondale and Asthma – Neighborhood approach

## Engaging Legal Aid: Child-Health Law Partnership

181 total utilizations – 130 ED visits, 51 admissions





**Date of Utilization** 

Days Since Previous UtilizationAverage Days Between Utilizations

Beck & D. Jones (2014)

## **Higher Dose Collaborations Targetting Medically Complex**





## **Study Design and Participants**



INTEGRATING SOCIAL SERVICES & HEALTH

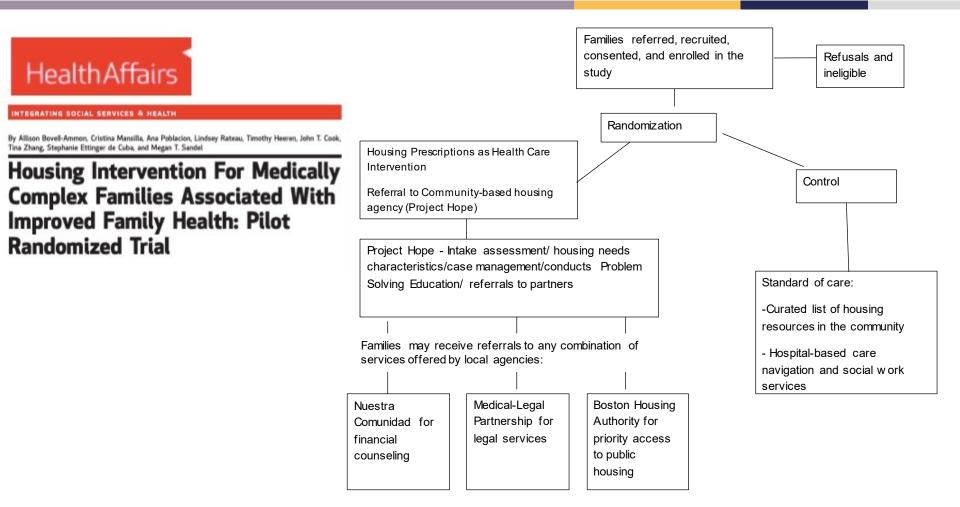
By Allison Bovell-Ammon, Cristina Mansilla, Ana Poblacion, Lindsey Rateau, Timothy Heeren, John T. Cook, Tina Zhang, Stephanie Ettinger de Cuba, and Megan T. Sandel

### Housing Intervention For Medically Complex Families Associated With Improved Family Health: Pilot Randomized Trial

### Eligibility criteria:

- Families with child under age 11 receives primary care at BMC and eligible for Medicaid
- Definition of medical complexity:
  - Child or adult with 3 or more ED visits in previous year
  - Child with medical conditions requiring 2 or more specialists
- Definition of housing instability:
  - Homelessness in past year
  - Behind on rent in past year
  - Moved 2 or more times in the past year
  - Paying more than 50% of family income on housing costs
- <u>Families interviewed at baseline and every six months for two years.</u>
  - Current study represents baseline and six months

## Study Design (cont'd)





## **Key Findings**



INTERDATING COCIAL SERVICES & HEALTH

By Allison Bovell-Ammon, Cristina Mansilla, Ana Poblacion, Lindsey Rateau, Timothy Heeren, John T. Cook, Tina Zhang, Stephanie Ettinger de Cuba, and Megan T. Sandel

### Housing Intervention For Medically Complex Families Associated With Improved Family Health: Pilot Randomized Trial

Difference-in-differences in changes from baseline to 6 months between intervention and control groups, among participants in Housing Prescriptions as Health Care in Boston, Massachusetts

		Difference	95% CI
	Behind on rent in past year	19ª	(-2, 40)
	Two or more moves in past year	-9ª	(-11, 28)
	Homeless in past 6 months	15ª	(-11, 40)
	Child in fair or poor health	<b>−</b> 32***	(-59, -06)
	In past 6 months, mean no. of child:		
	Urgent care visits	-0.51	(-1.54, 0.51)
	ED visits	-0.41	(-1.66, 0.83)
_	Hospitalizations	0.05	(-0.38, 0.49)
I.	Mean GAD-2 score	-1.38**	(-2.46, -0.31)
L	Mean PHQ-2 score	-1.04**	(-1.95, -0.13)

Analysis demonstrated significantly greater improvements in child health status and parent anxiety and depression scores among those in the intervention group, compared to the control group.



## **Investing in Partnerships**



**Press Releases** 

Boston Medical Center to Invest \$6.5 Million in Affordable Housing to Improve Community Health and Patient Outcomes, Reduce Medical Costs

December 07, 2017

We are investing \$6.5M in housing initiatives in Boston's most underserved neighborhoods. Our first venture into housing is a key opportunity to partner with our community and impact population health

Partners Funding

Housing Project Investments

NUESTRA COMUNIDAD DEVELOPMENT CORPORATION



\$2.2M

Housing Support Service



\$0.9M

Hybrid Housing Project Investment



The Community Builder



\$1.3M

Community
Engagement &
Housing Stability





\$1.7M

Social Impact Fund



\$0.5M

- This fall, we innovatively guided Determination of Need obligated funding towards housing.
- We aim to support housing and wrap-around services our patients and use Community Investment Tax Credits to stretch dollars
- We plan to test multiple approaches and have devoted \$0.65M to evaluation and oversight to determine the best approach.
- We look forward to working with other Boston hospitals to make similar investments and work collaboratively to improve community health.















## The Healthcare Anchor Network is a national collaborative of more than 50 healthcare systems building inclusive and sustainable local communities

#### **Network Participants:**







#### CONNECT

A supportive, structured, and values-aligned network of peers to help you develop effective and impactful anchor strategies.

#### ADVANCE

The tools, strategies, case studies, and other practical resources you need to advance your institution's anchor mission.

#### LEARN

A shared—and expanding base of research and knowledge to draw from, building off best practices in the field.







#### INNOVATE

A design laboratory where you can initiate and build innovative shared solutions with other institutions.

#### SHARE

Structured learning experiences where leading institutions can share candidly with you as a peer.

#### ADVOCATE

A networked, collective, and national platform to advocate for what matters to your institution.





#### LEAD

Recognition for your institution as an anchor leading the way towards healthy communities.



The networked services of a full-time team dedicated to creating productive opportunities to collaborate and share.

#### **Current Participants in the Network Include:**

























































































## The Healthcare Anchor Network focuses on local hiring; local sourcing, and place-based investing to drive change

We can leverage our everyday business practices to **impact economic factors** that contribute to the overall well-being of our communities, and **create community wealth through**:



#### Inclusive, Local Hiring: Building the Pipeline to a Healthy Community

This toolkit offers a guide for how to leverage hiring practices to advance inclusive, local job creation and career development for communities experiencing the greatest health and wealth disparities.



#### Inclusive, Local Sourcing: Purchasing for People and Place

This toolkit showcases examples of how hospitals and health systems are supporting diverse and locally owned vendors and helping to incubate new community enterprises to fill supply chain gaps and drive local economic growth in their communities.



#### Place-Based Investing: Creating Sustainable Returns and Strong Communities

This toolkit outlines place-based investing strategies that allow health systems to earn a financial return on their investments while producing a positive social, economic, or environmental impact within their geographical service areas.



# **Building Multi-Sector Coalitions: Steering Committee**



www.opportunityhome.org























be you.







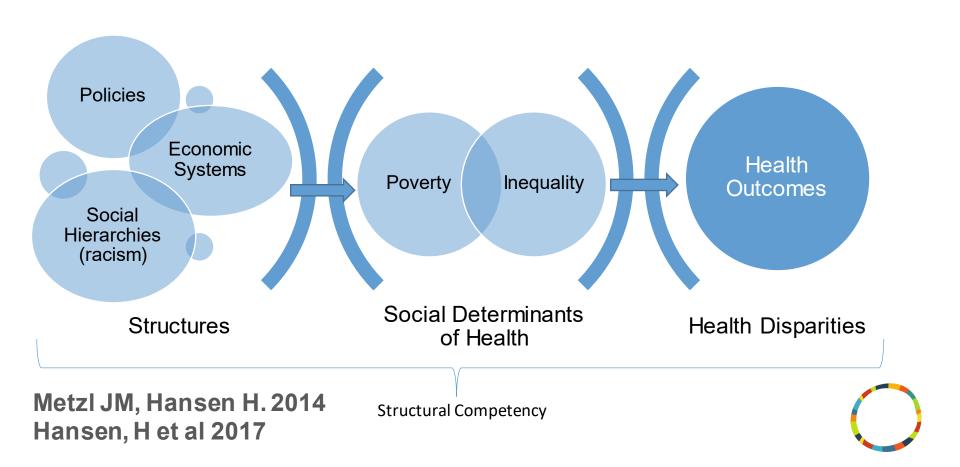




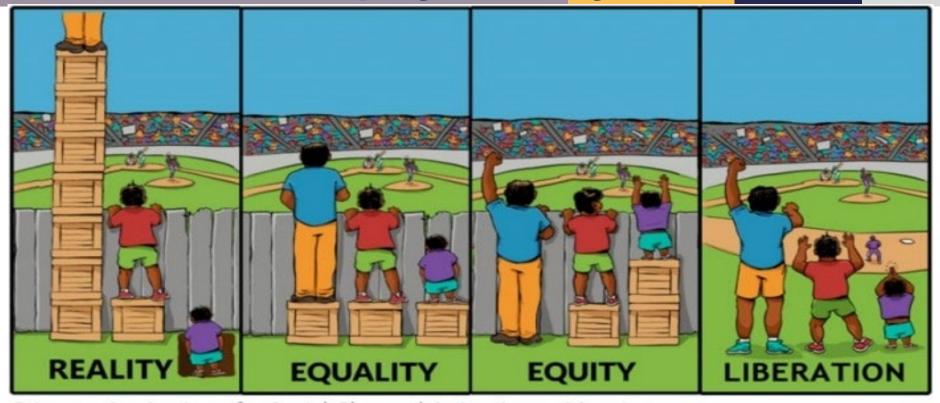




## Structural Competency includes understanding Structures, Social Determinants of Health and Health Disparities



# Move beyond addressing gaps temporarily towards true equity and beyond



© Interaction Institute for Social Change | Artist: Angus Maguire

#### **Equal Treatment:**

- -Assumption that all will benefit
- -Starting point for many of our patients
  Is different

#### **Equitable Treatment:**

Everyone given different supports to provide access. Filling gaps (often temporarily)

Equity and Beyond: All have access without supports needed. Root cause of inequity addressed.

Structural barrier removed.