



Obesity-Related Policy, Systems, and
Environmental Research in the US

Panel Discussions



Social Policy as Obesity Policy: The Impact of Addressing Social Determinants of Health



Andrea Richardson,
PhD, MPH
RAND Corporation
Moderator



Caitlin Caspi, ScD
University of Connecticut
Rudd Center for Food
Policy and Health



**Dolores Acevedo-
Garcia, PhD**
Brandeis University
Institute for Child Youth
and Family Policy



Carl Gershenson, PhD
Princeton University
Department of Sociology

Minimum Wage as a Social Determinant of Health: The Wage\$ Study

Caitlin Caspi, ScD

University of Connecticut Rudd Center for Food Policy and Health

June 2024

Economic Stability as a Social Determinant of Health

Social Determinants of Health



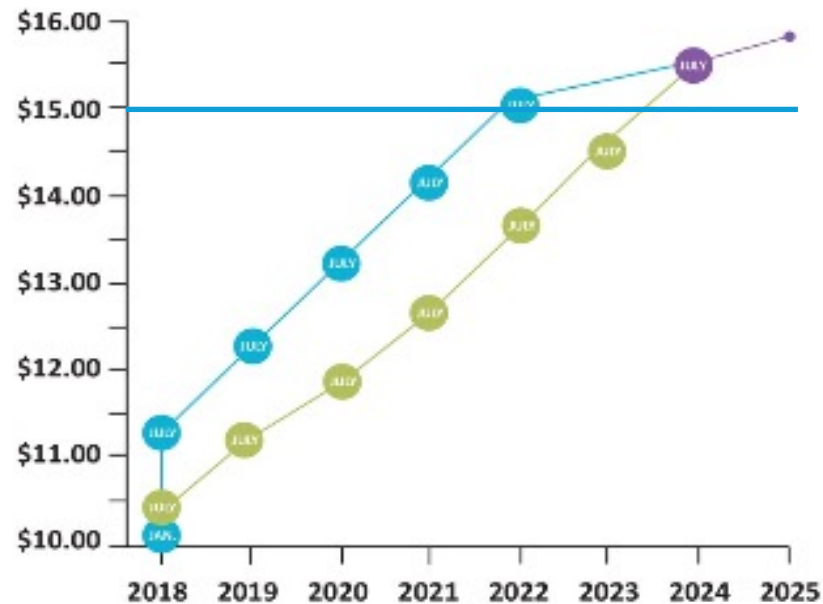
- Food security
- Housing stability
- Income and poverty
- Employment sectors
 - Pay (wages)
 - Benefits
 - Safety

Social Determinants of Health
Copyright-free

 Healthy People 2030

The Wage\$ Study (R01DK118664)

Minimum Wage Scheduled Increases



Large Business (More than 100 Employees)

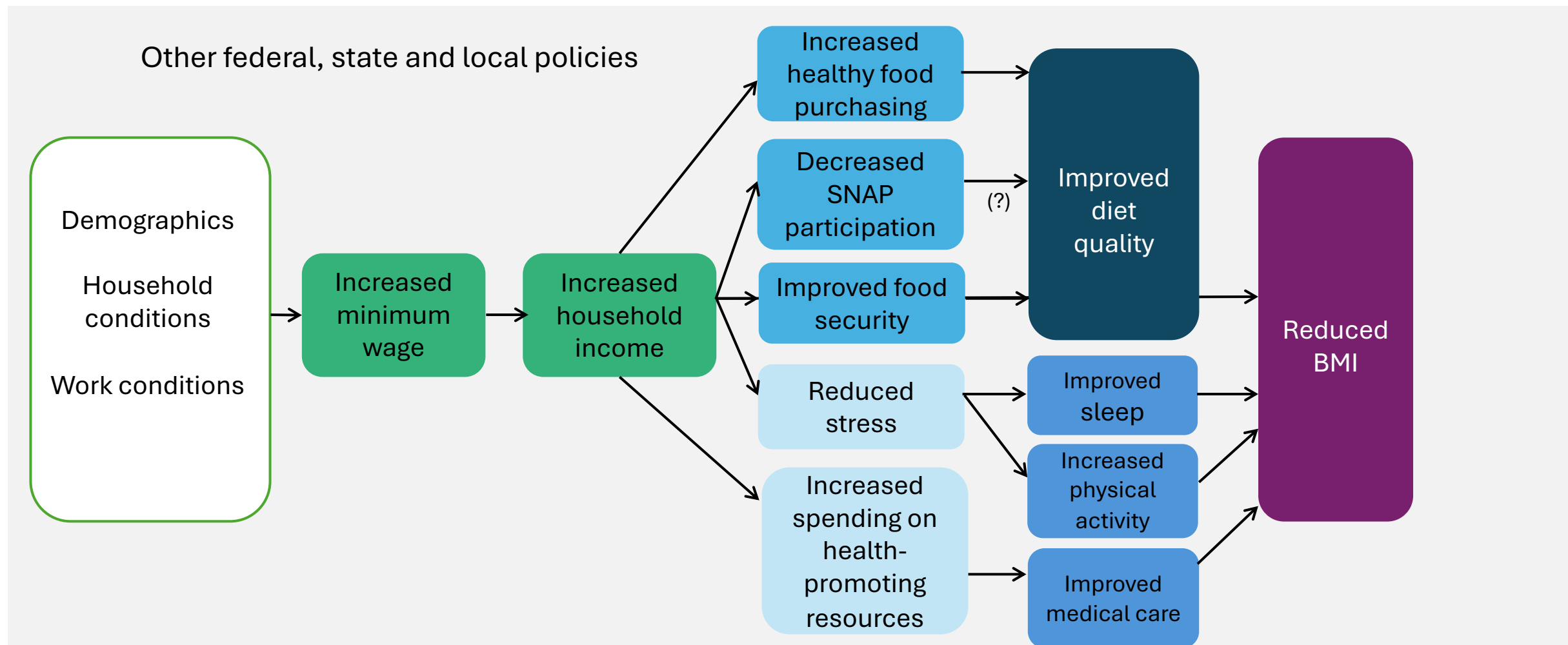
Small Business (100 or Fewer Employees)



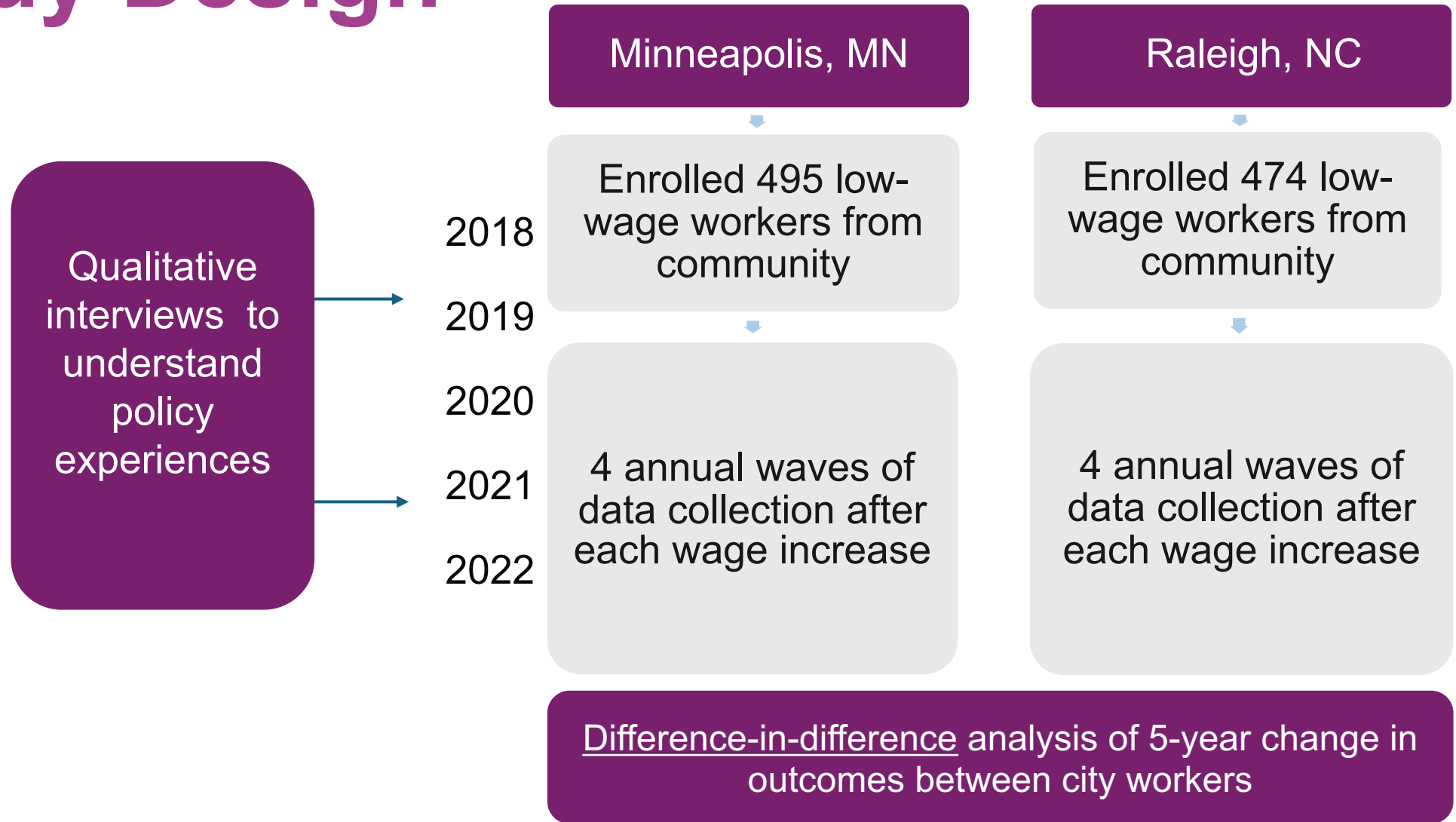
Minneapolis Minimum Wage Ordinance

- Passed by City Council on June 30, 2017
- Ordinance purpose: *“maintain worker’s health, efficacy, and general well-being”*
- Included an economic evaluation by Federal Reserve Bank

Conceptual Model



Study Design



2020

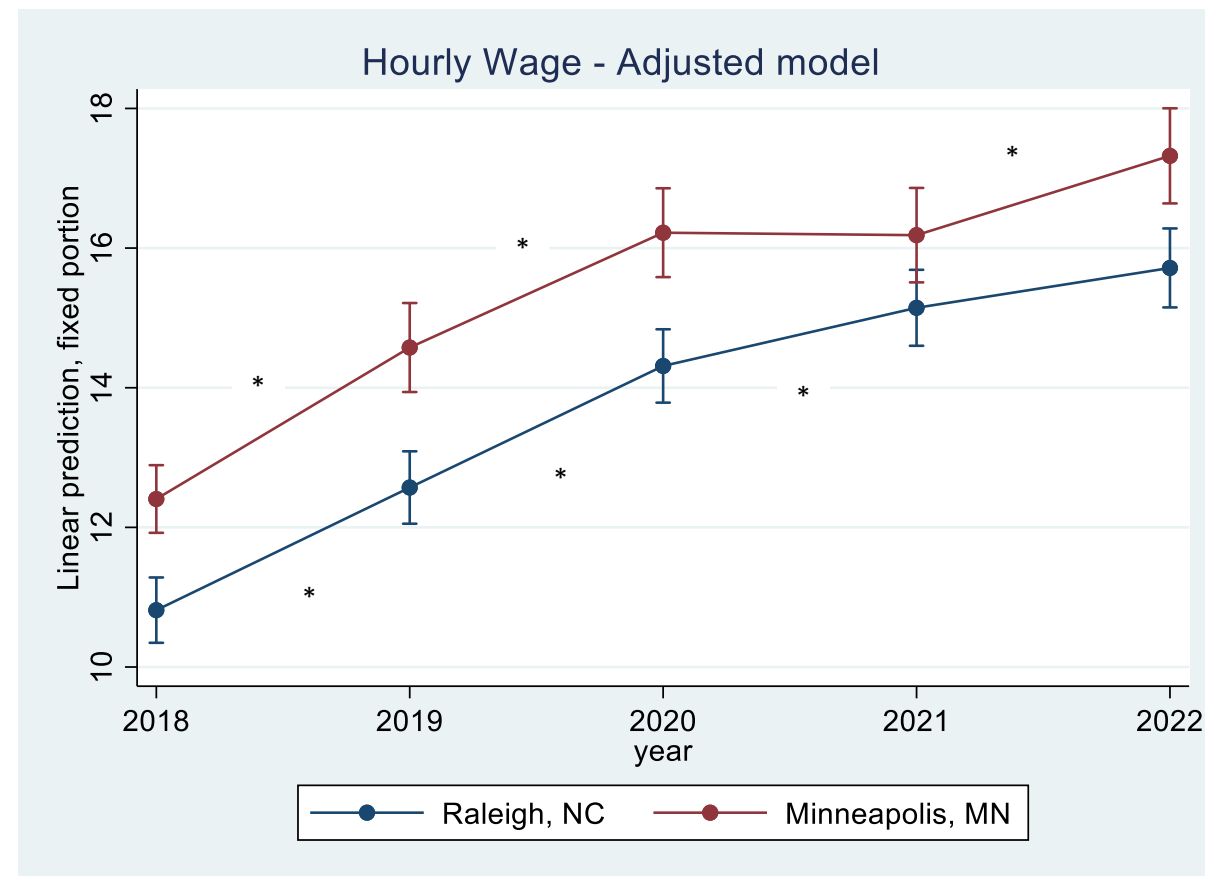


Quantitative Methods

- Mixed-effects regression models
 - City effect, time effect, and city-time interaction
 - Between each time point, and joint hypothesis (overall 2018 to 2022 change)
 - Adjusted for baseline age, sex, race/ethnicity, education, number of jobs worked, employment sector, pregnancy status, household size
 - Checked for differential loss-to-follow-up and missing responses

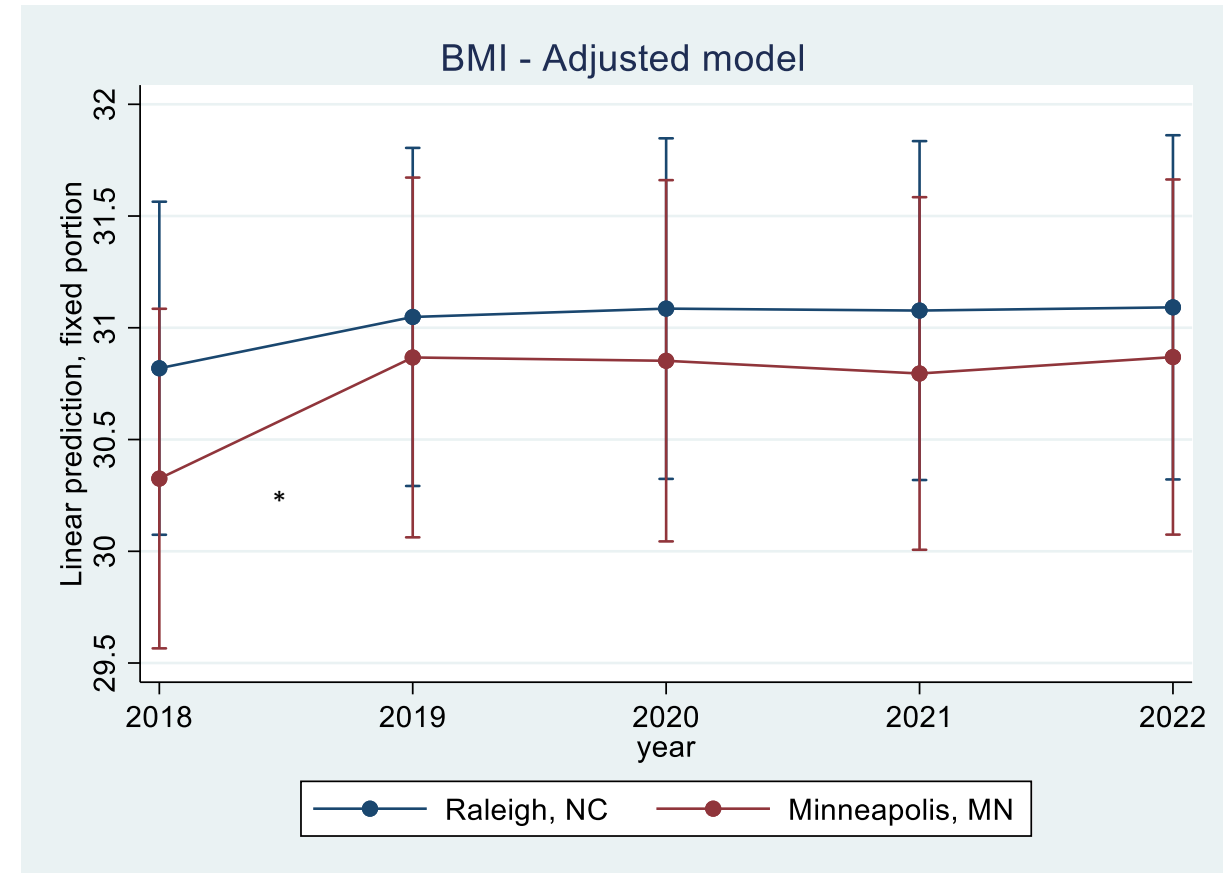
Change in Mean Hourly Wage in Minneapolis and Raleigh 2018-2022 (n=949)

- No difference-in-difference effects
- City-specific effects
 - Overall increase in both Minneapolis and Raleigh
 - Year-specific increases (*)



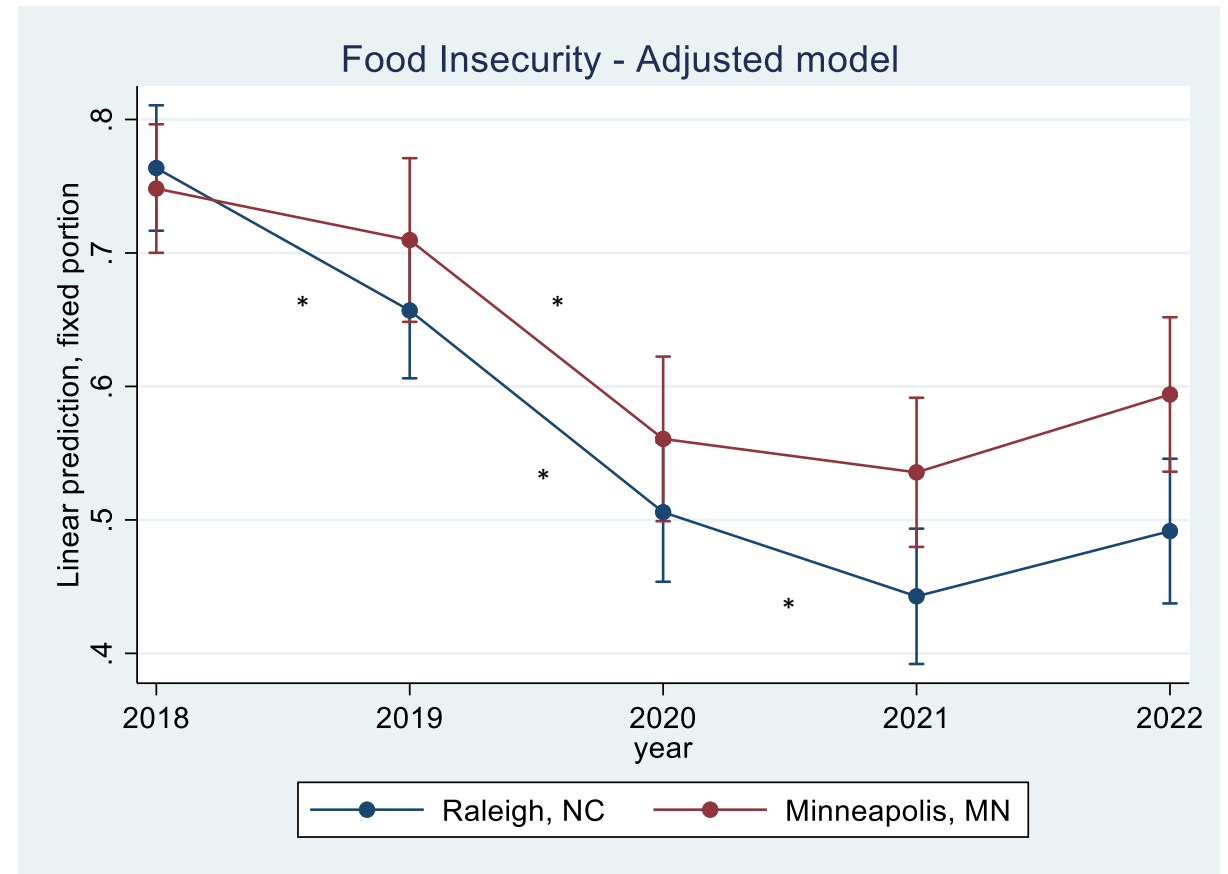
Change in BMI in Minneapolis and Raleigh 2018-2022 (n=952)

- No difference-in-difference effects
- City-specific effects
 - No overall changes
 - Year-specific increase (*)



Change in Food Insecurity in Minneapolis and Raleigh 2018-2022 (n=952)

- Difference-in-difference effects
 - Decrease in food insecurity favoring Raleigh
- City-specific effects
 - Overall decrease in both Minneapolis and Raleigh
 - Year-specific decreases (*)



Qualitative Findings

1. Minimum wage effects: too little too late?
2. People relied on a patchwork of supports
3. COVID-19 economic supports offered relief, but it was temporary

“Like every time they increase minimum wage, then the cost of living goes up.”

“You got food, but you can’t cook it if the lights are off.”

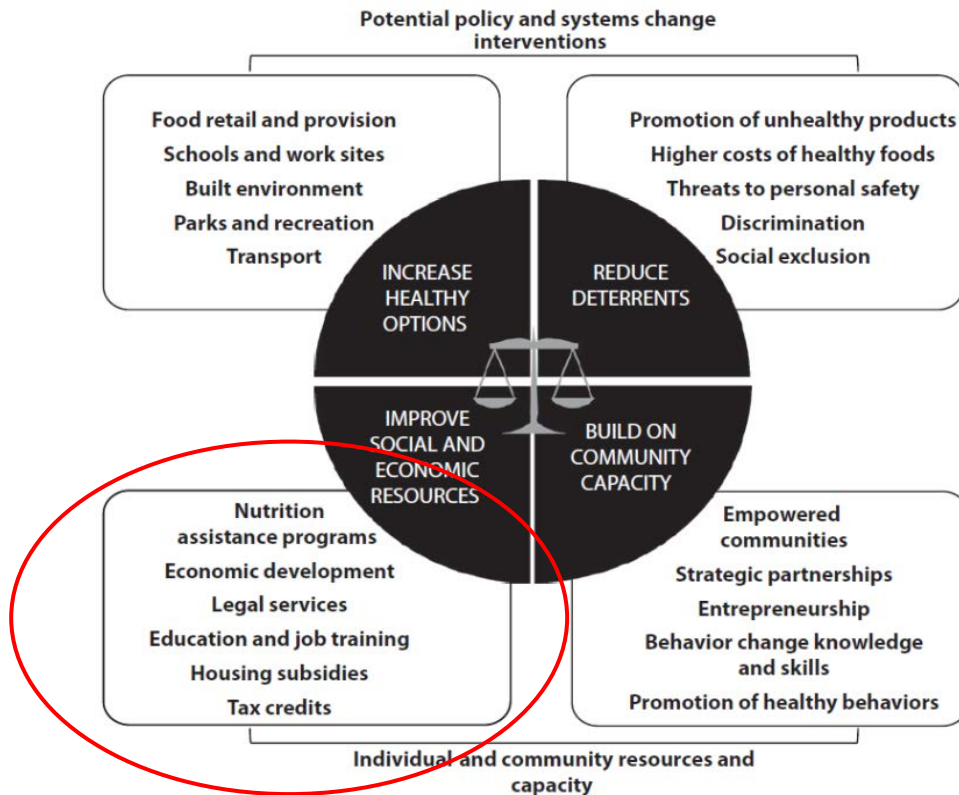
“They were holding our hand along the way, and then all of a sudden pushed us down the hill and said, ‘Whoever makes it, makes it. Whoever doesn’t, tough...’”

Where Are We Now?

Future Directions



Future Directions: Policy Lens



Approach to economic stability programming:

Safety net
Temporary
Piecemeal

Asset-building
Permanent
Coordinated

Future Directions: Research Lens

- Don't start a social/economic policy evaluation right before a pandemic
- But if you do...

Future Directions: Research Lens

- We need more precise measures of policy exposures
- We need to take opportunities to measure exposure to combinations of policies
- We need mixed-methods approaches

Thank you!

University of Connecticut

Maria Gombi-Vaca
Violeta Chacón
Curtis Antrum

University of Minnesota

Rebekah Pratt
Emily Welle
Kristi Fordyce
Susan Gust
Samuel Myers, Jr.
Lisa Harnack

University of North Carolina – Chapel Hill

Molly De Marco
Brett Shepherd
Melvin Jackson

Funding Acknowledgement

- National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health, R01DK118664
- Healthy Eating Research, Robert Wood Johnson Foundation, Prime Award 76093, Subaward 2835101
- Tufts-UConn Research Innovation and Development Grants in Economics (RIDGE) Program supported by the U.S. Department of Agriculture (USDA)

Social Policy as Obesity Policy

The Challenge of Complexity and Integration

Dolores Acevedo-Garcia, PhD

Brandeis University Institute for Child Youth and Family Policy

June 2024

Team and funders

Principal Investigator

Dolores Acevedo-Garcia

Research Director

Clemens Noelke

Policy Research Director

Pamela Joshi

Scientists and Research Associates

Brian DeVoe, Katherine Giapponi-Schneider, Madeline Leonardos, Yang Lu, Nancy McArdle, Robert W. Ressler, Abigail Walters

Senior Communications Specialist

Leah Shafer

Senior Program Administrator

Grace Lee

Robert Wood Johnson Foundation



W.K.
KELLOGG
FOUNDATION

Brandeis
UNIVERSITY

Outline

- Almost fifteen years since the IOM report...
 - Are we better at integrating a systems perspective and different types of evidence into obesity prevention?
- Social context matters—why?
 - Neighborhood environment and obesity
- Social policy matters—why?
 - Anti-poverty policy and obesity

Equity

- Social and racial/ethnic inequities in
 - obesity and related health issues,
 - (place-based) social determinants of health,
 - reach and effectiveness of social policy
- We need an (equity) analysis of policies and interventions that may help reduce obesity

Almost fifteen years after IOM- Bridging the Evidence Gap in Obesity Prevention

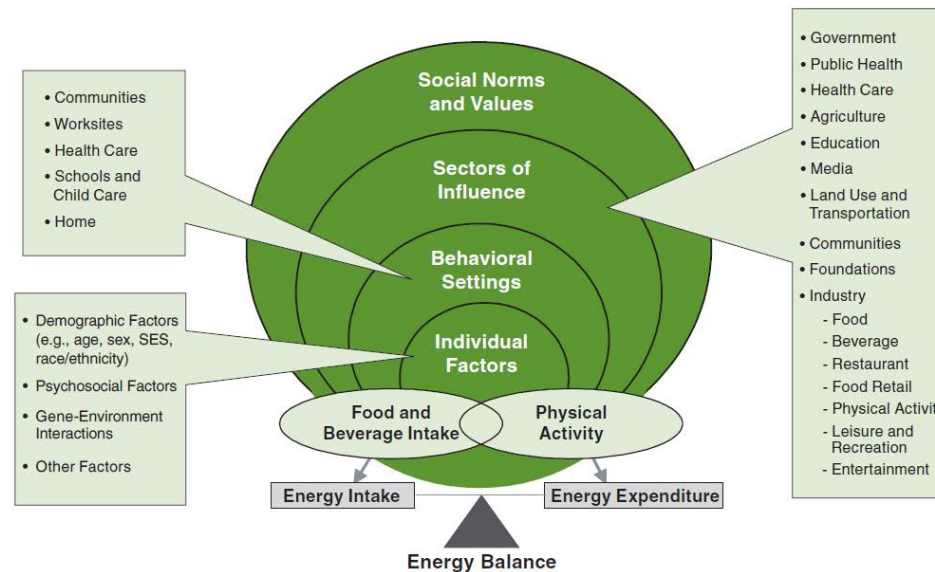


FIGURE 1-5 Comprehensive approach for preventing and addressing childhood obesity.

NOTE: SES = socioeconomic status.

SOURCE: IOM, 2007.

Institute of Medicine 2010. Bridging the Evidence Gap in Obesity Prevention: A Framework to Inform Decision Making. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12847>.

Neighborhood Opportunity: The Child Opportunity Index



Child Opportunity Index 3.0: A metric of child opportunity for all U.S. neighborhoods

- Summarizes in a single measure neighborhood features that, **per the research evidence**, matter for children's healthy development and their future outcomes as adults
 - 44 indicators, 14 subdomains, in three domains of opportunity: **education, health and environment, social and economic**
- It is **the most comprehensive and rigorous index of neighborhood conditions**
- Available for all neighborhoods in the U.S. (>73,000 census tracts)
- Has **demonstrated utility and applications**: large community of COI users in academia, health, housing and early childhood education

Child Opportunity Index 3.0: A metric of child opportunity for all U.S. neighborhoods

- Allows us to examine children's neighborhoods
 - Across the entire U.S., between or within states/metropolitan areas
 - Racial and ethnic inequities in children's access to neighborhood opportunity
 - Over time (2012-2021)

Child Opportunity Index 3.0 component indicators

Education

Early childhood education

Private pre-K enrollment, Public pre-K enrollment

Elementary education

Reading/math test scores, Reading/math test score growth, Poverty-adjusted test scores

Secondary and post-secondary

High school graduation, AP enrollment, college access

Educational resources

School poverty, teacher experience, Adult educational attainment, child enrichment non-profits

Health and Environment

Pollution

Airborne microparticles, ozone concentration, industrial pollutants, Superfund sites

Environmental health

Walkability, NatureScore, healthy food access, extreme heat exposure

Safety-related resources

Vacant housing, safety-focused non-profits

Health resources

Health-focused non-profits, health insurance coverage

Social and Economic

Employment

Employment rate, high-skill employment, full-time year-round earnings

Economic resources

Poverty rate, public assistance rate, median household income

Concentrated inequity

Advanced education degrees, very high-income households, no high school education, very low-income households

Housing resources

Broadband access, crowded housing

Social resources

Mobility-enhancing friendship networks, single-headed households, non-profit density

Wealth

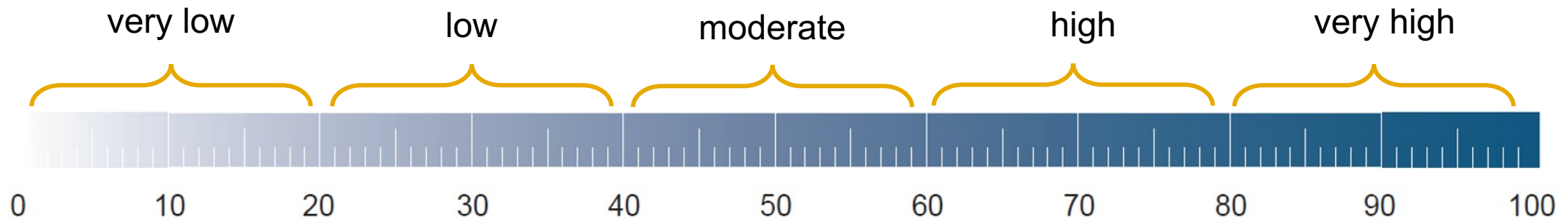
Home ownership rate, home values, real estate taxes, capital income

How we built the index

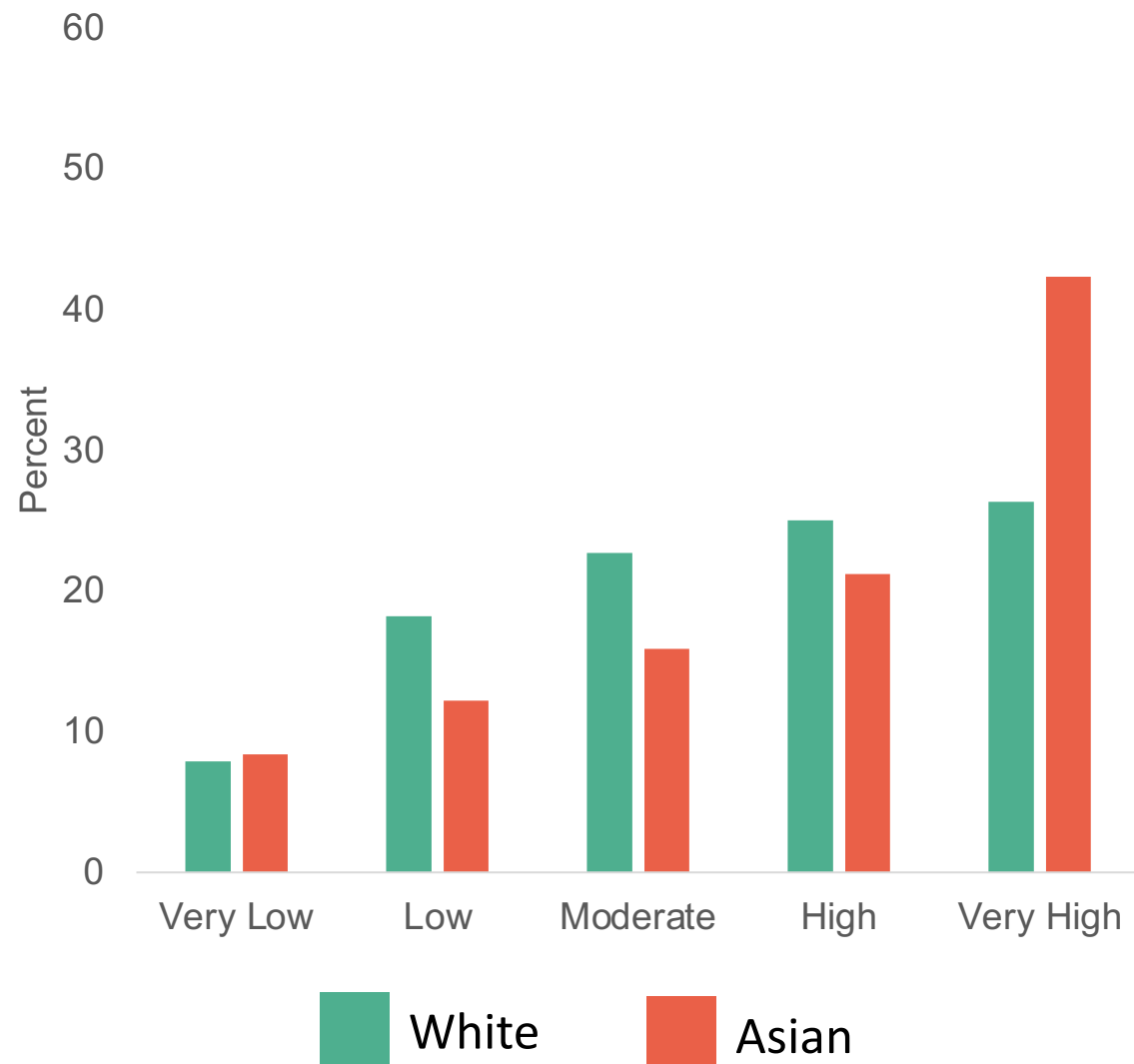
- Indicators standardized (converted to z-scores) so that they are on a common scale
- Standardized indicators averaged into 14 subdomain scores
 - Weights capture how strongly each indicator predicts four different health and socio-economic outcomes
- Subdomain scores averaged into one overall score and three domain scores

Child Opportunity Levels

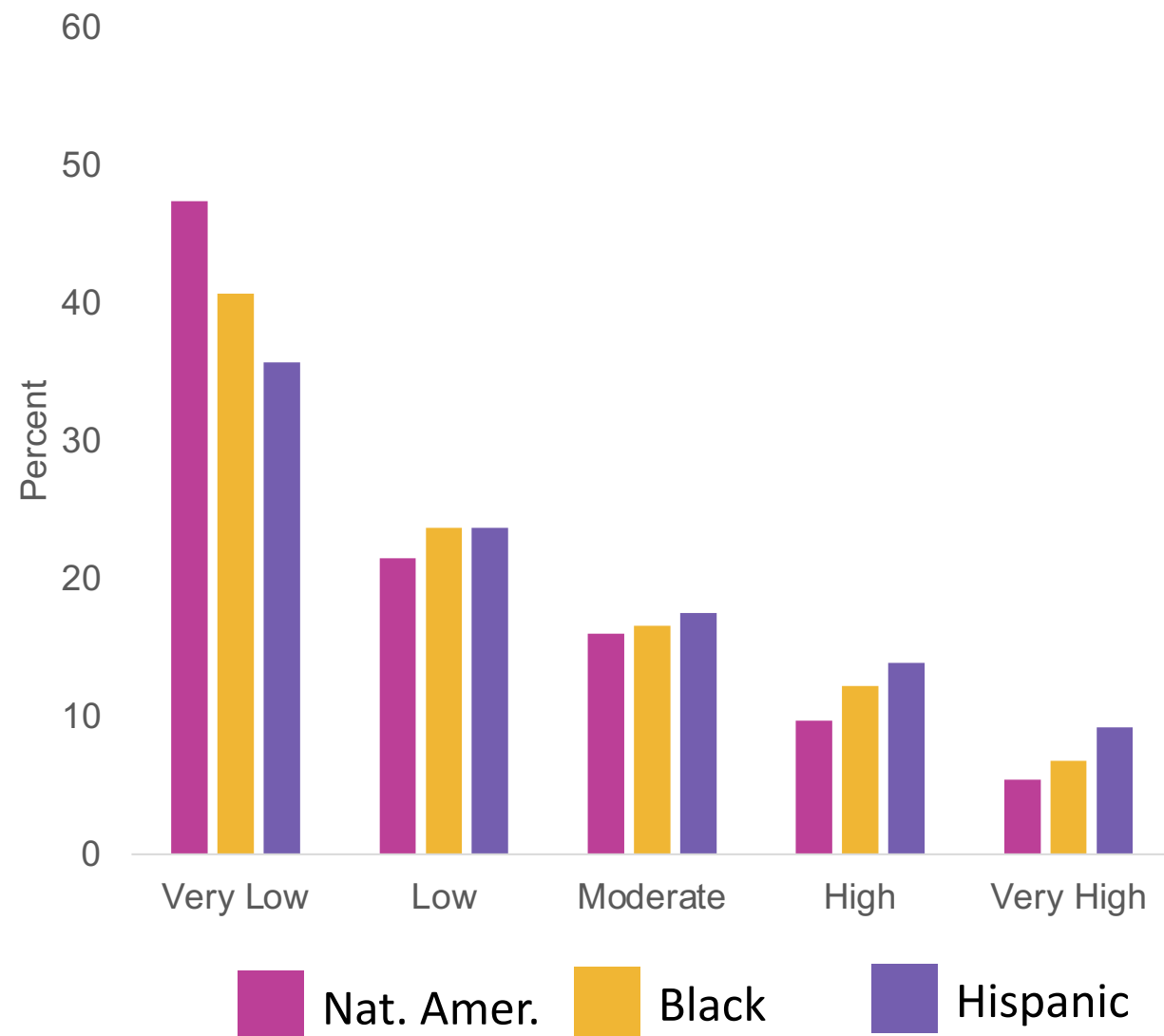
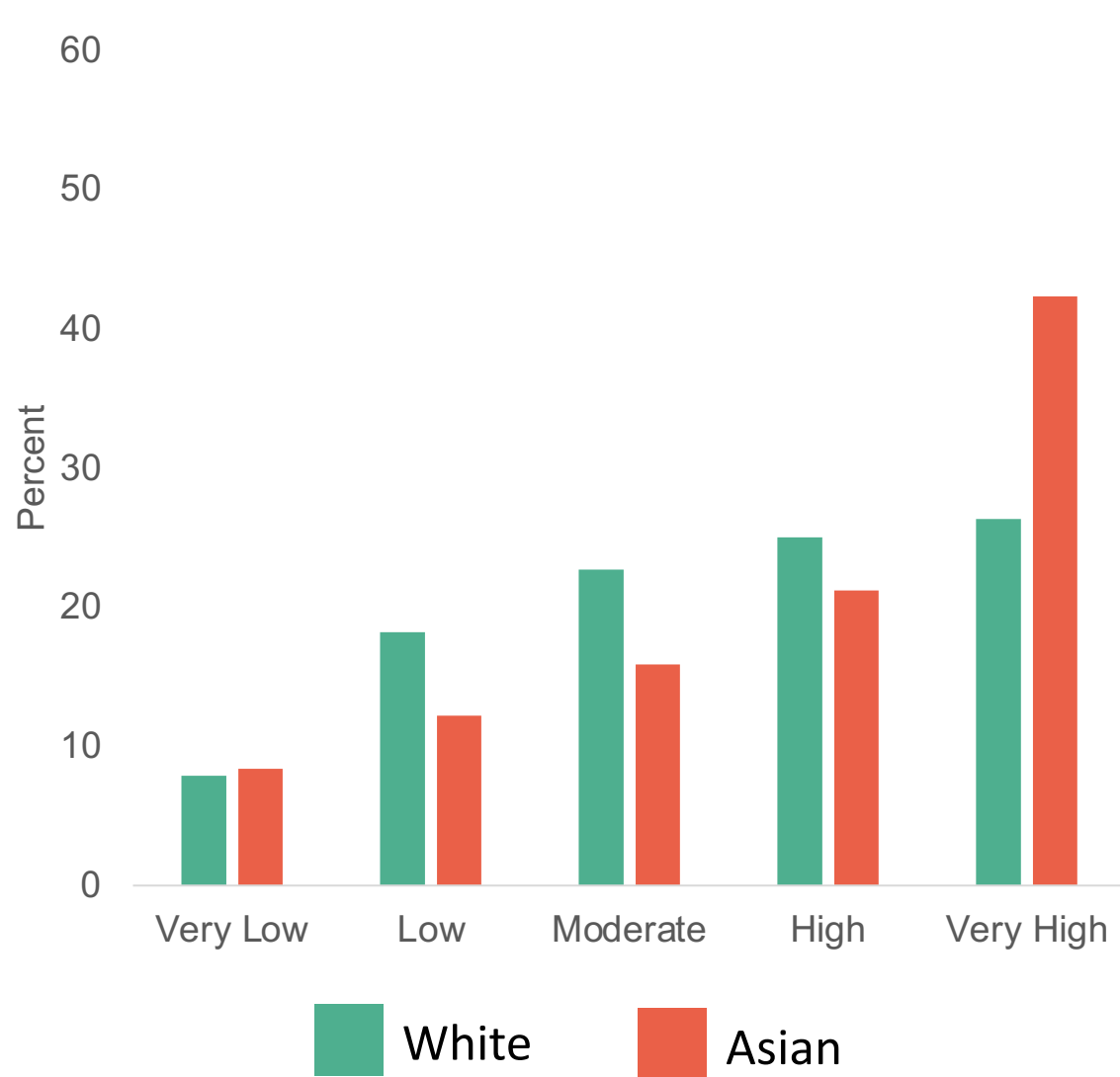
- 5 categories: very low, low, moderate, high, very high
- To construct them,
 - we ranked all neighborhoods on their composite z-scores
 - and grouped neighborhoods into 5 categories containing 20% of children each



Nationally, White and Asian children are concentrated in high- and very high-opportunity neighborhoods



**For Black, Hispanic and Native American children, we see a mirror image:
they are concentrated in very low-opportunity neighborhoods**



Elevated risk of child and caregiver mortality in very low-opportunity neighborhoods

Mortality hazard ratios (unadjusted)

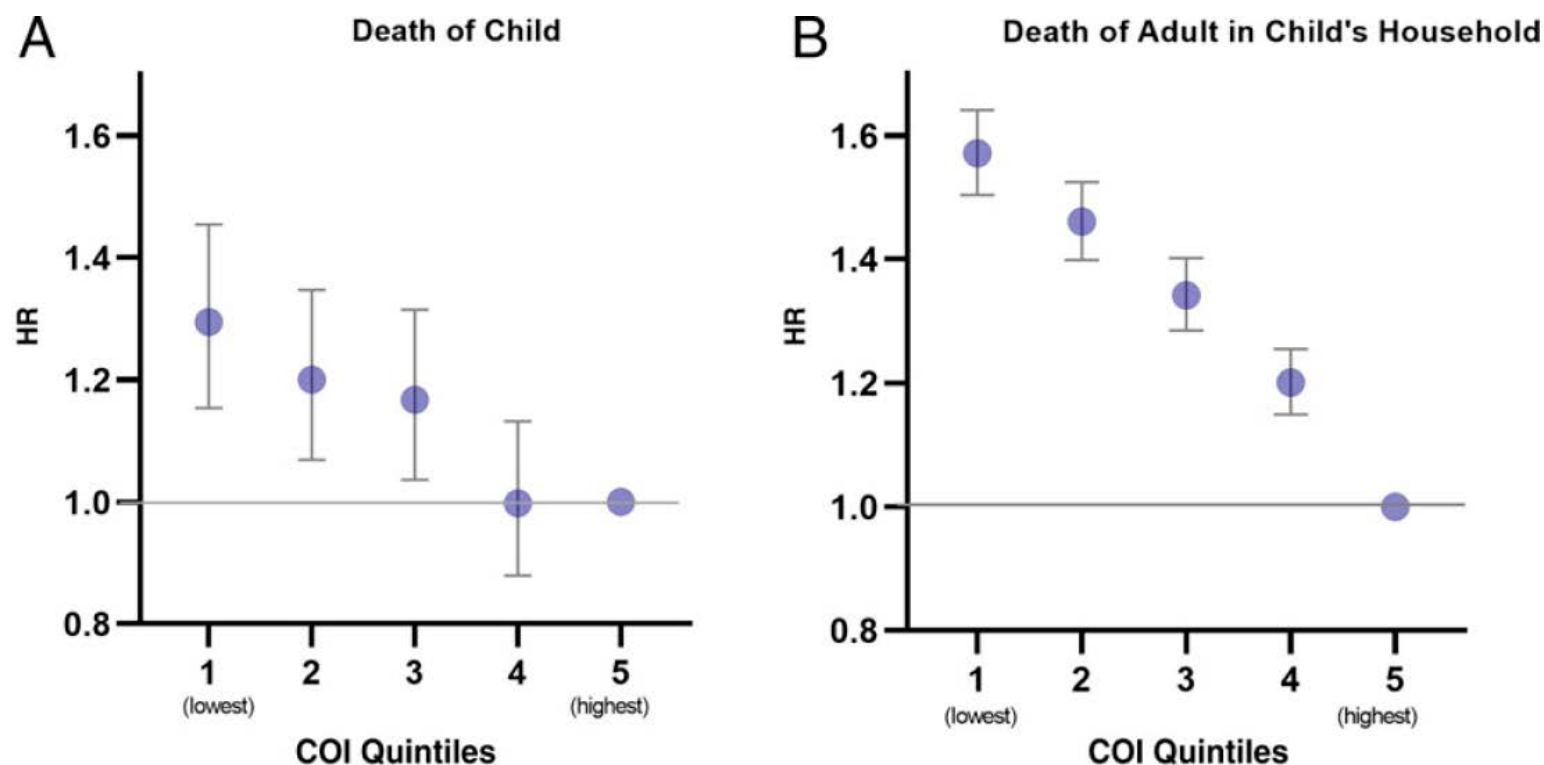


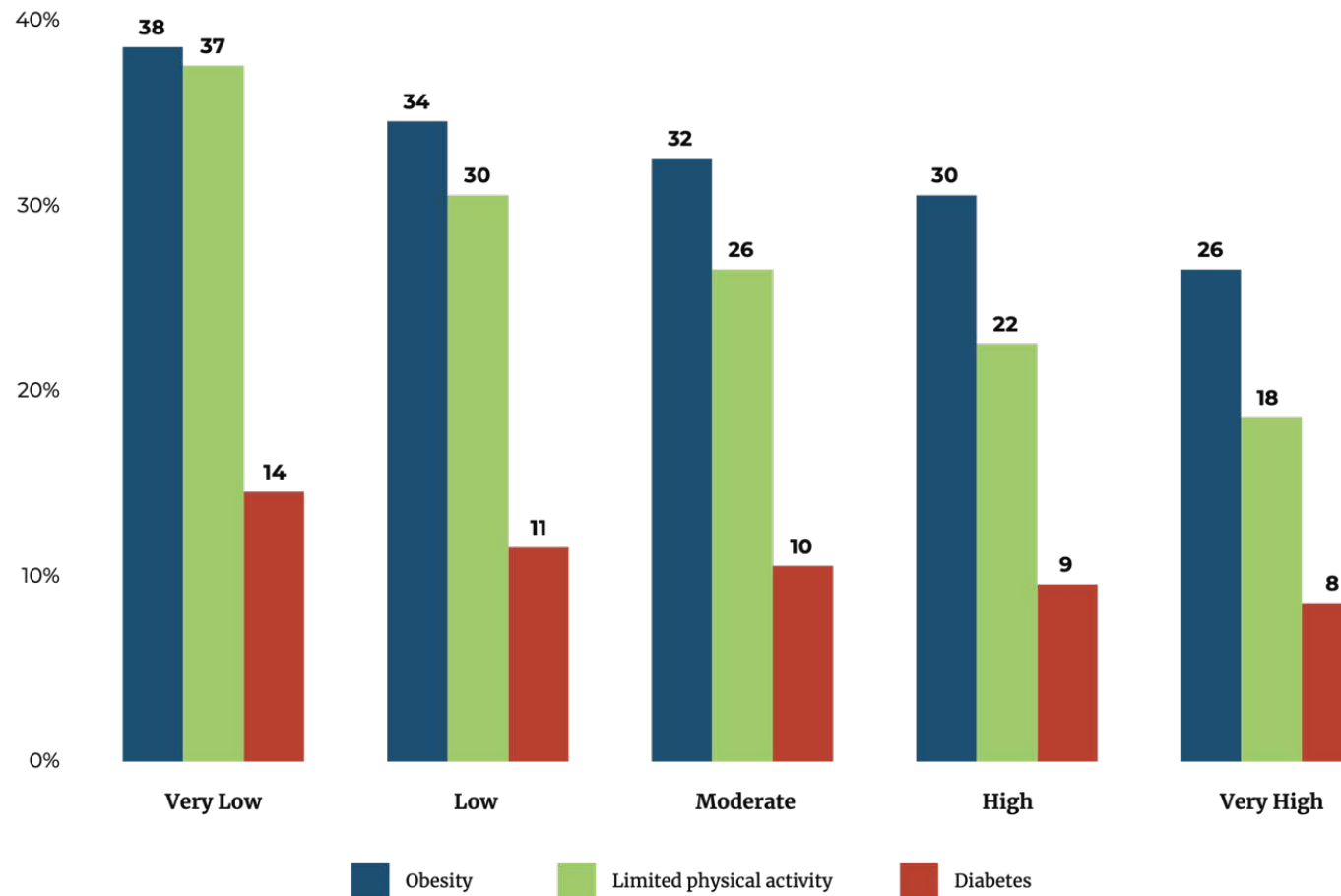
FIGURE 1

HRs and 95% CIs for (a) all-cause child death and (b) caregiver death, by COI Index quintile, over the 11-year follow-up period ($n = 1\,025\,000$ children). HRs produced using bivariate Cox regression models. Disclosure review board approval number: CBDRB-FY22-CES004-011.

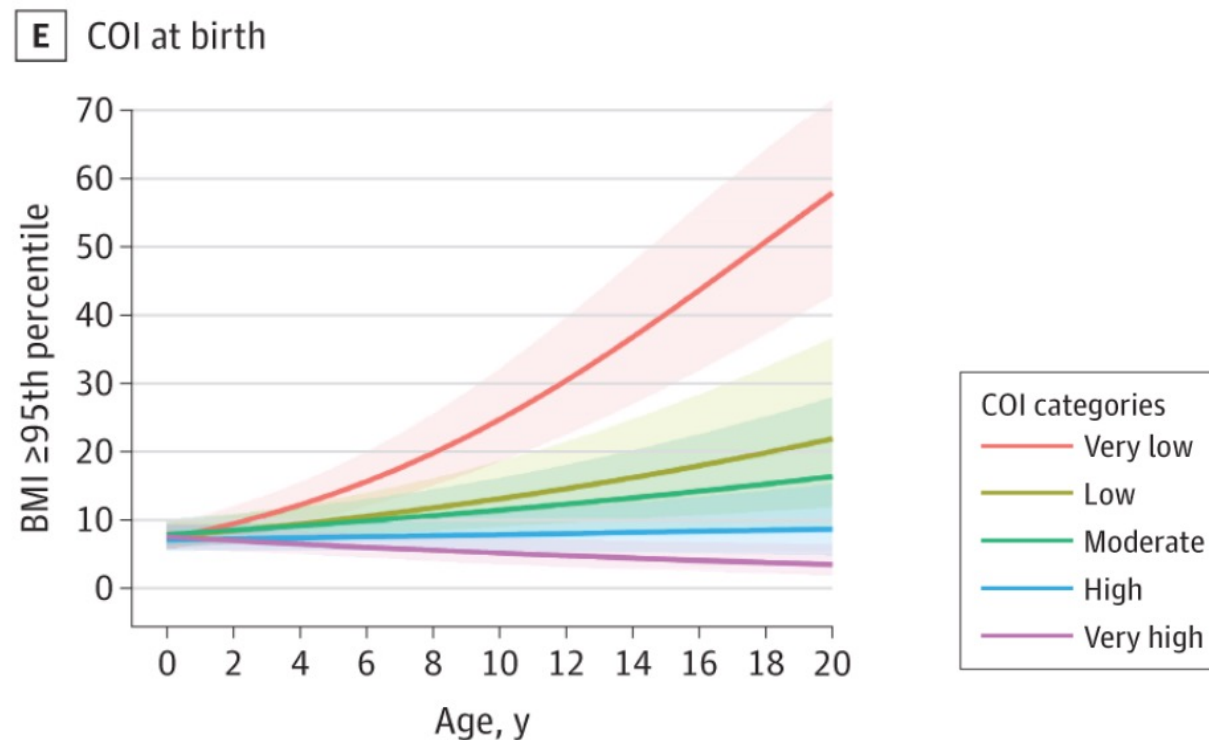
Slopen, N., Cosgrove, C., Acevedo-Garcia, D., Hatzenbuehler, M. L., Shonkoff, J. P., & Noelke, C. (2023). **Neighborhood Opportunity and Among Children and Adults in Their Households.** *Pediatrics*, 151(3), e2022058316.

Lower neighborhood opportunity is associated with higher prevalence of obesity, limited physical activity and diabetes in adults

Prevalence of obesity, limited physical activity and diabetes by Child Opportunity Level
(100 largest metropolitan areas combined, COI 3.0)

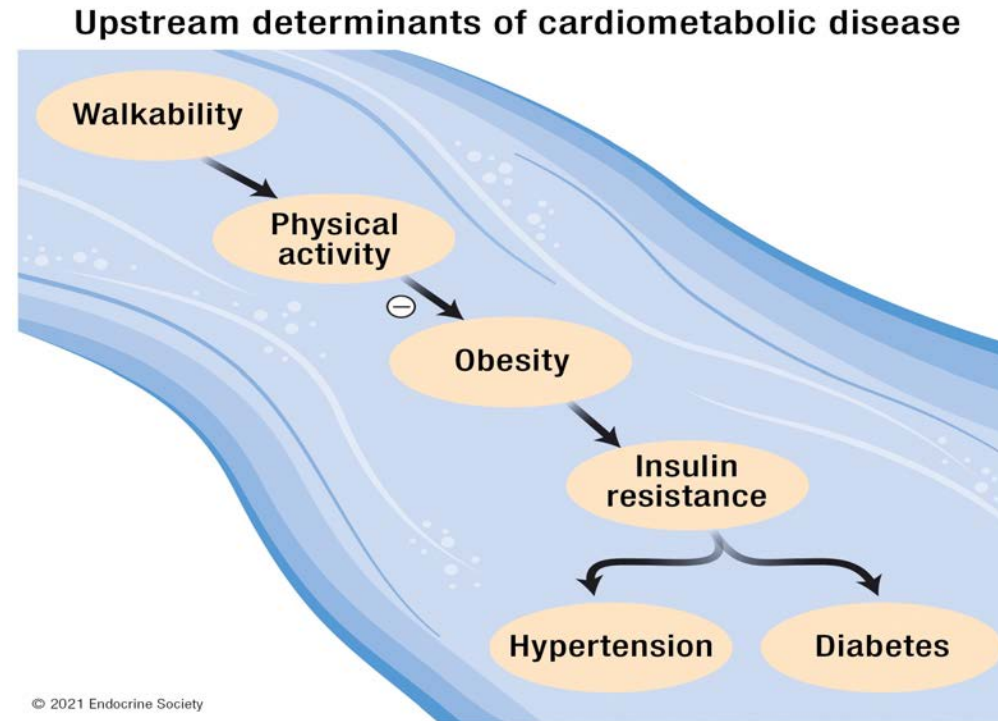


Children in very low-opportunity neighborhoods at birth have higher prevalence of obesity through age 20



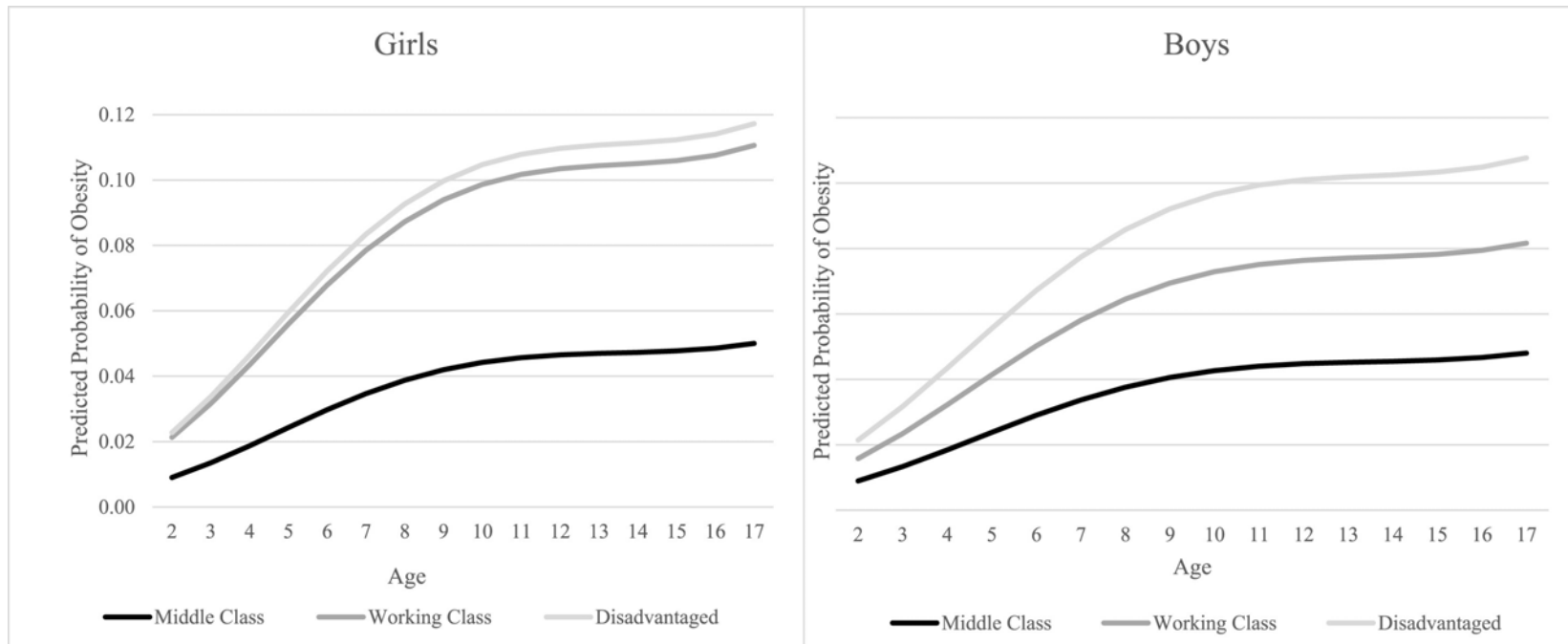
Aris, I. M., Perng, W., Dabelea, D., Padula, A. et al.(2022). Associations of Neighborhood Opportunity and Social Vulnerability with Trajectories of Childhood Body Mass Index and Obesity among Us Children. *JAMA Network Open*, 5(12), e2247957-e2247957. [10.1001/jamanetworkopen.2022.47957](https://doi.org/10.1001/jamanetworkopen.2022.47957)

Individuals in highly walkable neighborhoods have more physical activity and lower weight; high neighborhood walkability is associated with lower incidence of diabetes and hypertension.



Howell, N. A., Booth, G. L. (2022). The Weight of Place: Built Environment Correlates of Obesity and Diabetes. *Endocrine Reviews*, 43(6), 966-983. [10.1210/endrev/bnac005](https://doi.org/10.1210/endrev/bnac005)

More complexity: heterogeneous effects of neighborhood environment



Neighborhood socioeconomic environment is more strongly associated with obesity for girls than for boys.

Kranjac, A. W., Boyd, C., Kimbro, R. T., Moffett, B. S., Lopez, K. N. (2021). Neighborhoods Matter; but for Whom? Heterogeneity of Neighborhood Disadvantage on Child Obesity by Sex. *Health & Place*, 68, 102534. <https://doi.org/10.1016/j.healthplace.2021.102534>

Just an association? Some causal evidence from Moving to Opportunity

Table 3. Body-Mass Index (BMI) and Glycated Hemoglobin Level at Follow-up, According to Study Group.*

Variable	Control	Low-Poverty Voucher			Traditional Voucher		
		Intention-to-Treat Estimate (95% CI)†	P Value	Prevalence (%)	Intention-to-Treat Estimate (95% CI)†	P Value	Prevalence (%)
BMI‡	Prevalence (%)						
≥30	58.6	−1.19 (−5.41 to 3.02)	0.58	57.5	−0.14 (−6.27 to 5.98)	0.96	58.4
≥35	35.5	−4.61 (−8.54 to −0.69)	0.02	31.1	−5.34 (−11.02 to 0.34)	0.07	30.8
≥40	17.7	−3.38 (−6.39 to −0.36)	0.03	14.4	−3.58 (−7.95 to 0.80)	0.11	15.4
Glycated hemoglobin§							
≥6.5%	20.0	−4.31 (−7.82 to −0.80)	0.02	16.3	−0.08 (−5.18 to 5.02)	0.98	20.6

* The analysis sample consisted of women with a valid BMI measurement (for the BMI analysis) or a valid glycated hemoglobin measurement (for the glycated hemoglobin analysis) in the long-term follow-up data collection. See the Supplementary Appendix for the sample sizes used.

† Intention-to-treat estimates compare the average outcomes for all participants assigned to an intervention group with the average outcomes for controls, with adjustment for the set of baseline covariates shown in Table 1 and indicators for survey-sample release and random-assignment periods. The effects are calculated with the use of logistic regression and are presented as average marginal effects.

‡ BMI (the weight in kilograms divided by the square of the height in meters) was calculated from measured height and weight for most adults as part of the long-term follow-up data collection. Self-reported values were used for 23 observations in the low-poverty-voucher group, 22 observations in the traditional-voucher group, and 21 observations in the control group.

§ Glycated hemoglobin (HbA_{1c}) was assayed from dried blood spots collected as part of the long-term follow-up data collection.

A housing policy intervention (housing mobility) had a causal effect on obesity.

Adult women in low-poverty neighborhoods had significantly lower prevalence of BMI ≥ 35, BMI ≥ 40 and glycated hemoglobin > 6.5% than women in control group.

Ludwig, J., Sanbonmatsu, L., Gennetian, L., Adam, E., Duncan, G. J., Katz, L. F., Kessler, R. C., Kling, J. R., Lindau, S. T., Whitaker, R. C., McDade, T. W. (2011). Neighborhoods, Obesity, and Diabetes — a Randomized Social Experiment. *New England Journal of Medicine*, 365(16), 1509-1519. 10.1056/NEJMs1103216.

Social policy: Anti-poverty policy

Examples of policies tied to employment

- Earned Income Tax Credit (EITC)
- Child Tax Credit (CTC)
- Child care subsidies
- Minimum wage

Examples of safety net policies

- Supplemental Nutrition Assistance Program (SNAP)
- Other nutrition assistance programs
- Housing subsidies
- Supplemental Security Income (SSI)

Equity

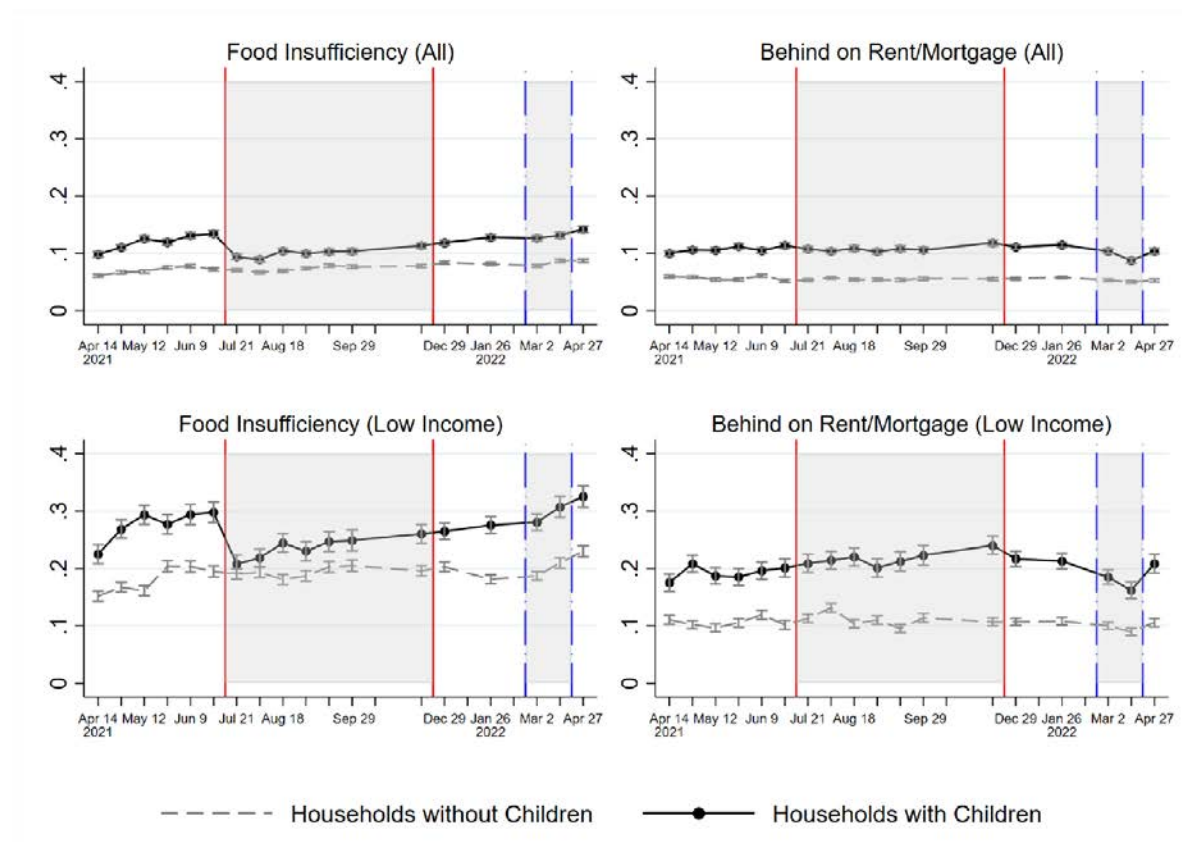
- Eligibility
- Reach (need)
- Access; administrative barriers
- Effectiveness

2021 expansion of the Child Tax Credit

- Unprecedented reduction in child poverty overall and by race and ethnicity
- Emerging evidence about other effects

During 2021 expansion of the Child Tax Credit, monthly payments reduced food insecurity more than lump-sum payments, especially among low-income households with children

Figure 1: Trends in food insufficiency and being behind on rent/mortgage payments for households with and without children



Parolin, Z., Ananat, E., Collyer, S., Curran, M., Wimer, C. (2023). The Effects of the Monthly and Lump-Sum Child Tax Credit Payments on Food and Housing Hardship. *AEA papers and proceedings*, 113, 406-412. [10.1257/pandp.20231088](https://doi.org/10.1257/pandp.20231088)

Schild, Jake, Sophie M. Collyer, Thesia Garner, Neeraj Kaushal, Jiwan Lee, Jane Waldfogel, and Christopher Wimer. 2023. "[Effects of the Expanded Child Tax Credit on Household Spending: Estimates Based on U.S. Consumer Expenditure Survey Data.](#)" Available as NBER Working Paper 31412. [Doi:10.3386/w31412](https://doi.org/10.3386/w31412).

EITC expansions (e.g., 1993) possibly associated with increase in childhood obesity, but...

Only about 2% of the increase in obesity rate and 3% of the decrease in underweight after OBRA 93 can be explained by the policy-driven income. Given that the amount of increase in income represents only about 2% of the EITC eligible families' annual income (\$28,000), **it is not surprising that the income effect is small.**

Because income explains only a small portion, **it must be the maternal time with children that potentially played a significant role in children's weight gain** after OBRA 93. Mothers responded to the EITC expansion by increasing their labor supply. An increase in maternal labor supply reduces the amount of time mothers spend with children, which tends to increase children's weight. Working mothers spend less time grocery shopping, cooking, and supervising children, often relying on less-nutritious food-away-from-home meals and having less time for children to engage in physical activities.

Jo, Y. (2018). Does the Earned Income Tax Credit Increase Children's Weight? The Impact of Policy-Driven Income on Childhood Obesity. *Health Econ*, 27(7), 1089-1102. [10.1002/hec.3658](https://doi.org/10.1002/hec.3658)

Specificity

- Multiple outcomes:
 - Income
 - Employment
 - Investments in children
 - Parental time
 - Effects on food security, diet, weight/obesity
- How can we align them better?

Thank you!

The Housing Crisis and the Hunger Crisis

Dr. Carl Gershenson

Eviction Lab at Princeton University

June 2024



DISCLAIMER: Any opinions and conclusions expressed herein are those of the authors and do not represent the views of the U.S. Census Bureau. The Census Bureau has ensured appropriate access and use of confidential data and has reviewed these results for disclosure avoidance protection (Project P-7529313; CBDRB-FY23-CES004-012, CBDRB-FY23-CES004-017).



The Housing Crisis

Rent prices

- Housing is the primary cost for families.
- In 2021, the median renter household making less than \$30,000 a year had just **\$380** left over each month after paying rent.

The Eviction Crisis

- One-third of all U.S. households rent their homes, including most low-income Americans—especially Black and Hispanic Americans.
- Each year, **2.7 million** unique renter households receive an eviction filing.

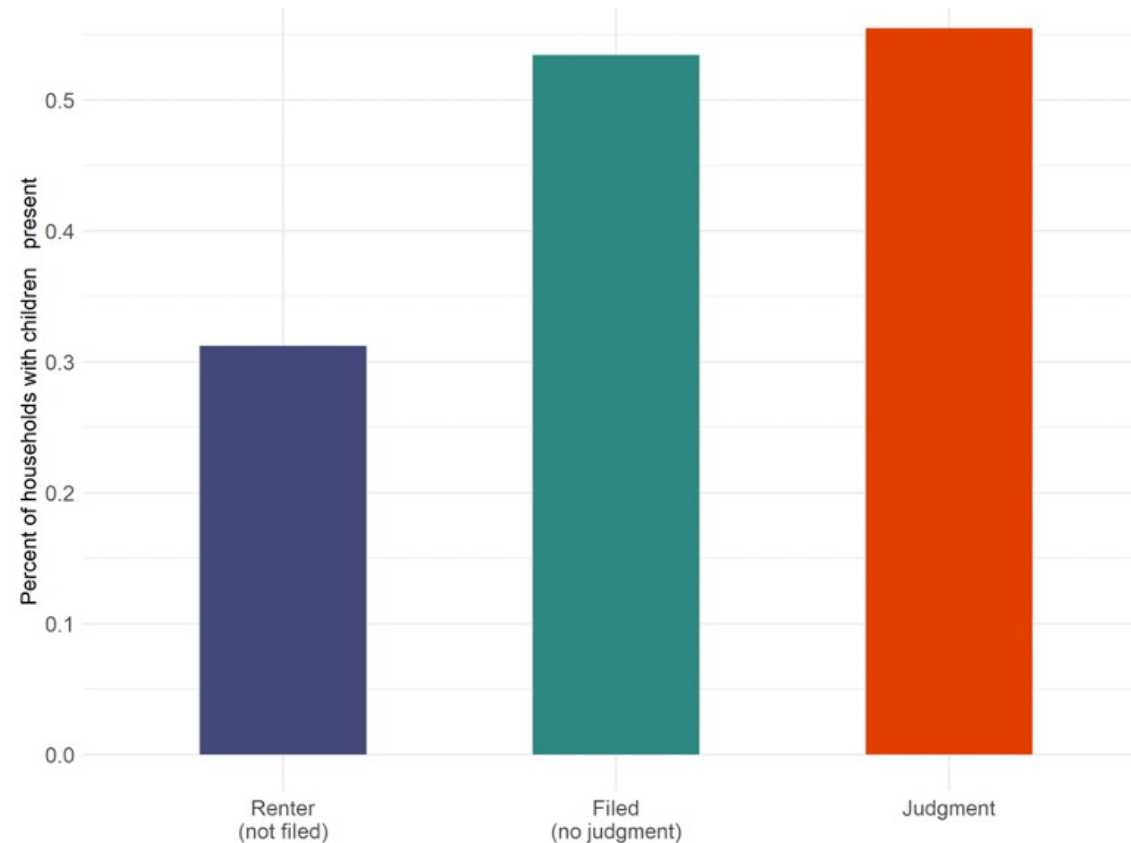
- E. A. Benfer, D. Vlahov, M. Y. Long, E. Walker-Wells, J. L. Poteenger, G. Gonsalves, D. E. Keene (2021). Eviction, Health Inequity, and the Spread of COVID-19: Housing Policy as a Primary Pandemic Mitigation Strategy. *Journal of Urban Health*.
- R. Collinson, J. Humphries, N. Mader, D. Reed, W. van Dijk (2022). Eviction and poverty in American cities. *NBER Working Paper Series*.
- M. Desmond, R. T. Kimbro (2015). Eviction's Fallout: Housing, Hardship, and Health. *Social Forces*.
- M. K. Hoke, C. E. Boen (2021). The health impacts of eviction: Evidence from the national longitudinal study of adolescent to adult health. *Social Science and Medicine*.
- K. M. Leifheit, S. L. Linton, J. Raifman, G. L. Schwartz, E. A. Benfer, F. J. Zimmerman, C. E. Pollack (2021). Expiring Eviction Moratoriums and COVID-19 Incidence and Mortality. *American Journal of Epidemiology*.

Racism in Rental Markets

- 18% of renters in the U.S. are Black
- Over 50% of evictions in the U.S. are filed against Black renters

INCOME DOES NOT EXPLAIN THIS RELATIONSHIP

Over Half of Evicted Households Have Children Present



Housing and Hunger: A Joint Crisis

- Hunger and housing instability are both most common in households with children, especially households of color
- “Among households with children under eighteen, those with severe housing cost burdens spent under \$300 a month on food” (JCHS 2022)
- Can SNAP help households at times of most acute need?

Evicted Households Lose Access to SNAP

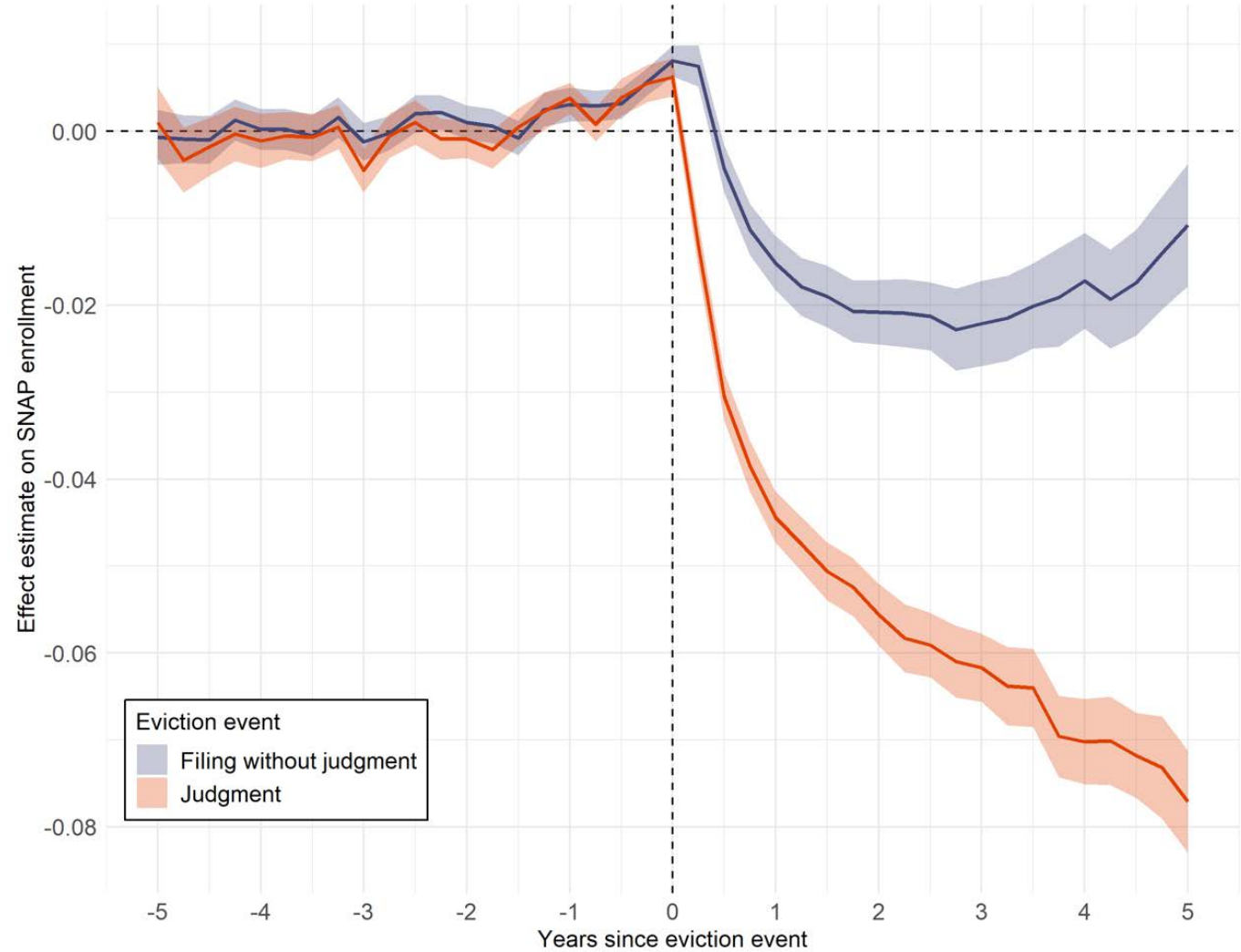


Figure is based on 2010-2016 eviction records linked to the 2010 Decennial Census, Resident Candidate File, SSA Numident File, and SNAP Records. Census Disclosure Review Board; Approval Number: CBDRB-FY23-CES004-017.

Interview Research with University of Michigan Bauer Research Group

Dr. Kate Bauer

Jeneen Ali

Theresa Mitchell

Tommarra Grice (interviewer)

Trouble with Recertification

“I didn't know that it was time for me to re-certify. So when they sent my mail, they sent it to my address that I had got evicted out of...But by the time I got the information, my case was pretty much closed already... I told the lady that I was homeless, and I didn't have anywhere for me to receive any mail or anything like that. They were saying things about getting a PO box and stuff like that.”

Hard to Use Benefits when Homeless

- “If you bought the whole box [of ramen] and you try to leave it in the space that you was in, somebody would steal your stuff. So you couldn't do that. And then you couldn't buy produce stuff because ... they wouldn't let you use their refrigerator; [they'd] destroy your stuff with your name on it or anything like that.”
- “They say if you're not paying rent, you don't need any food stamps, because you've got that money in your pocket... Say you're paying \$1,350, which everybody probably is, and you're not paying that no more. They say, "Oh, you don't need these food stamps, you've got an extra \$1,350 in your pocket," and that's not the case. The case is, I got evicted because I don't have the \$1,350.”

Complex Rules

- “I think it's a lot of the system is not a cookie-cutter system. Five people can speak with and have a DHS assigned worker...but then those five different workers will explain and follow procedure five different ways.”
- “If you already getting food stamps, and you let somebody else stay with you, even though they grown, they pick up on that address...When you start using that person's address, they know that your family of three is staying with that other family of three.”

Caseworkers, Caseworkers, Caseworkers

- “I don't know if the worker's caseload is too much or they have too many cases, so maybe they just need to hire more people so that workers could actually care about the people and what they're doing.”
- “They don't even want to advocate for you, it feels like. And that doesn't feel good. You're already struggling.”

Overwhelming Cynicism

One victim of domestic violence reports; **“Honestly, I never told [DHS] that I wasn't staying there [my old address] because I didn't want my stamps to be cut off. So I didn't really disclose that information.”**

Many reported not updating caseworkers about address changes because:

- They feared jeopardizing their other benefits
- They feared jeopardizing their friends and family's benefits
- They feared that Child Protective Services would take away their children

SNAP-Oriented Policy Solutions

- “Just say for instance, offer everybody who's getting evicted like a PO box so they can at least get their mail somewhere so they can at least still get their food stamps or their benefits until they get their home... PO boxes that the state can use to send documents.”
- “I also think that it benefits the community as well as Department of Health and Human Services to offer some type of excuse or some type of waiver for when you are homeless or without permanent residence... Even if it's an extra 30 days [to prove eligibility]. It's just kind of being more lenient on those time constraints, so that those parents are still able to provide food for them and their family and still kind of navigate this crazy world.”

The Ideal SNAP Recipient vs. Reality

“Once you don't have an address, you consider non-existent as a citizen of the state you're in. And so that makes them take all your benefits.”



Dr. Carl Gershenson
Princeton University
carleg@princeton.edu

<https://evictionlab.org>

This research was funded by Healthy Eating Research, the Bill and Melinda Gates Foundation,
the JPB Foundation, and the Chan Zuckerberg Initiative

Thank you!