

ADDRESSING
CHRONIC DISEASE
THROUGH
SOCIAL DETERMINANTS
OF HEALTH (SDOH)
STRATEGIES



Learning Objectives



- Identify key Social Determinants of Health (SDOH) that directly influence food and nutrition, built environment, and community-clinical linkages.
- Develop and propose targeted interventions that leverage SDOH insights to improve chronic disease outcomes in diverse populations, focusing on evidence-based practices and community partnerships.
- Evaluate the impact of integrating SDOH-focused strategies into healthcare systems on the management and prevention of chronic diseases, with an aim to formulate scalable and sustainable health policies.

CDC NCCDPHP approach to Social Determinants of Health and Chronic Diseases



Built Environment

Human-made surroundings that influence overall community health and people's behaviors that drive health.



Community-Clinical Linkages

Connections made between health care, public health, and community organizations to improve population health.



Food and Nutrition Security

Having reliable access to enough high-quality food to avoid hunger and stay healthy.



Social Connectedness

When people or groups have relationships that create a sense of belonging and being cared for, valued, and supported.



Tobacco-Free Policy

Population-based preventive measures to reduce tobacco use and tobacco-related illness and death.

<https://www.cdc.gov/health-equity-chronic-disease/sdoh-and-chronic-disease/nccdphps-approach-to-social-determinants-of-health.html>

NCCDPHPS approach to Social Determinants of Health



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Connections made between healthcare, public health, and community organizations to improve population health.

Obesity:Percentage - National, Natural Breaks; Social Vulnerability Index (SVI), Overall SVI

Map Table

GEOGRAPHY LEVEL

Search Geography

OR

National State

SURVEILLANCE INDICATORS

Topic:

Risk Factors for Diabetes

Indicator:

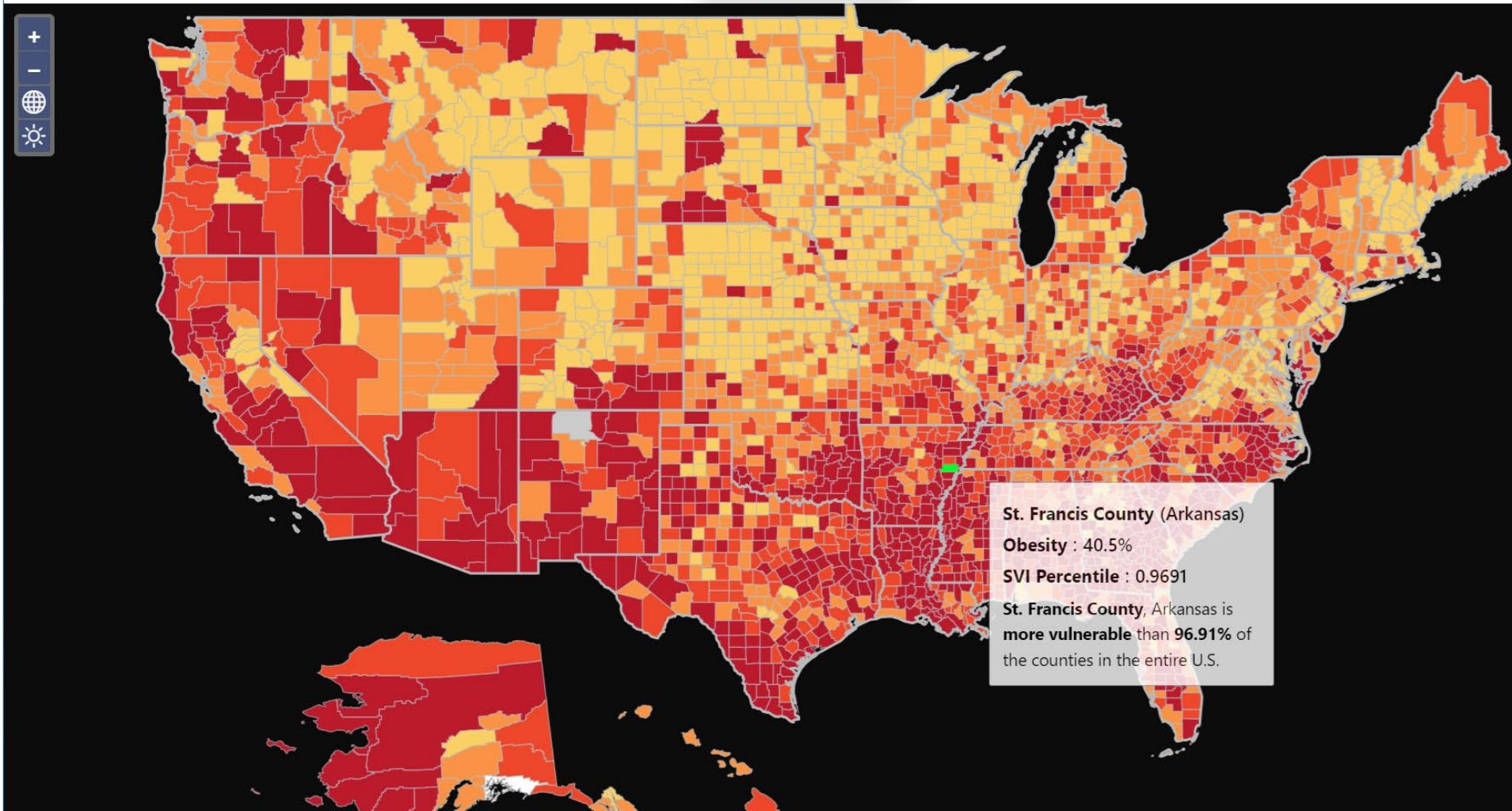
Obesity

[Read more](#)

2021

SOCIAL DETERMINANTS OF HEALTH (SDOH)

Social Vulnerability Index (SVI)



Obesity:Percentage - National, Natural Breaks; Social Vulnerability Index (SVI), Overall SVI

[Map](#) [Table](#)

GEOGRAPHY LEVEL ^

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SURVEILLANCE INDICATORS ^

Topic:

[Risk Factors for Diabetes](#) ^

Indicator:

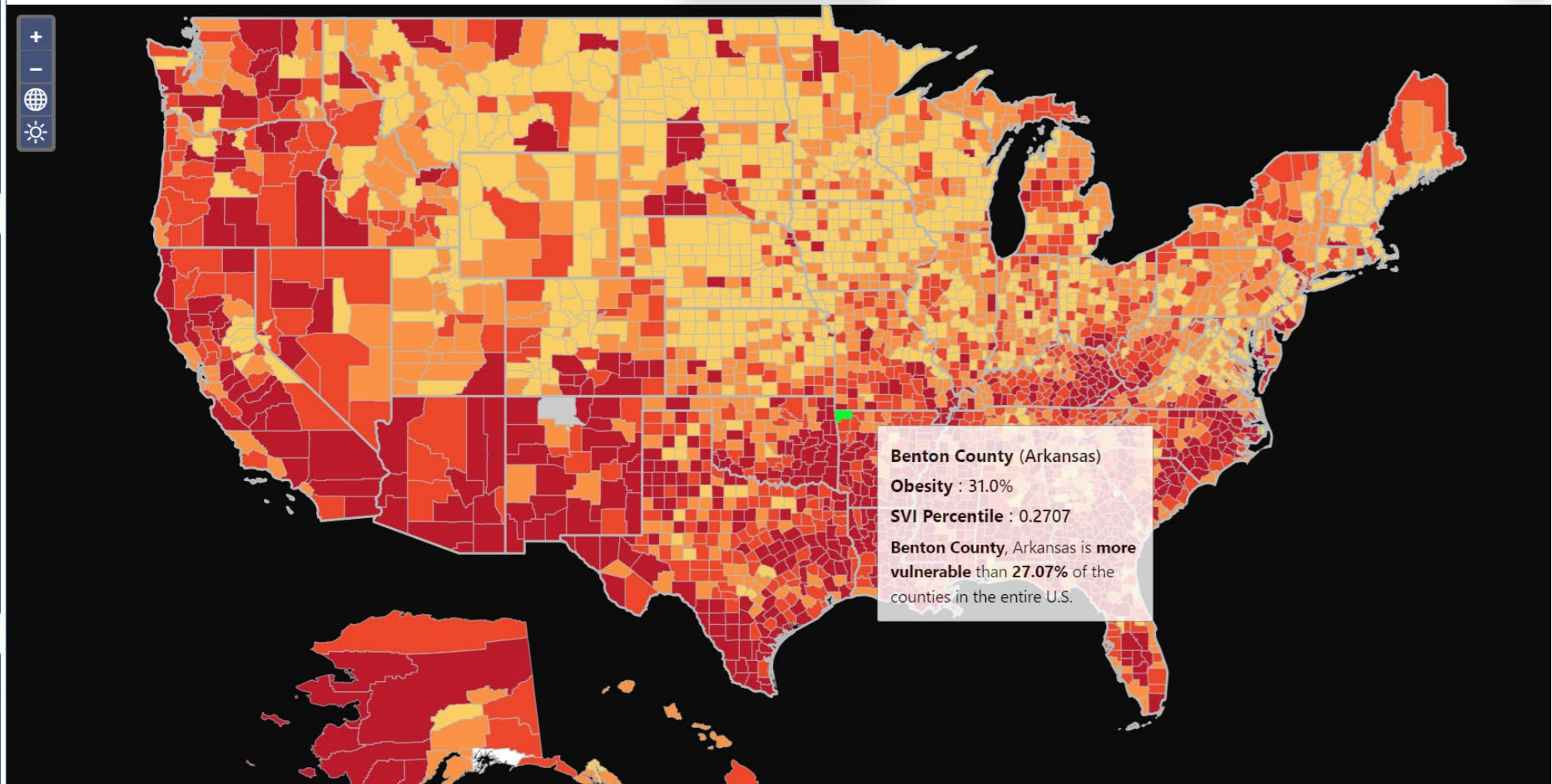
[Obesity](#) ^

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SOCIAL DETERMINANTS OF HEALTH (SDOH) ^

[Social Vulnerability Index \(SVI\)](#) ^



Physical Inactivity:Percentage - Arkansas, Natural Breaks; Social Vulnerability Index (SVI), Overall SVI

GEOGRAPHY LEVEL

Search Geography

OR

National **Arkansas**

SURVEILLANCE INDICATORS

Topic:

Risk Factors for Diabetes

Indicator:

Physical Inactivity

[Read more](#)

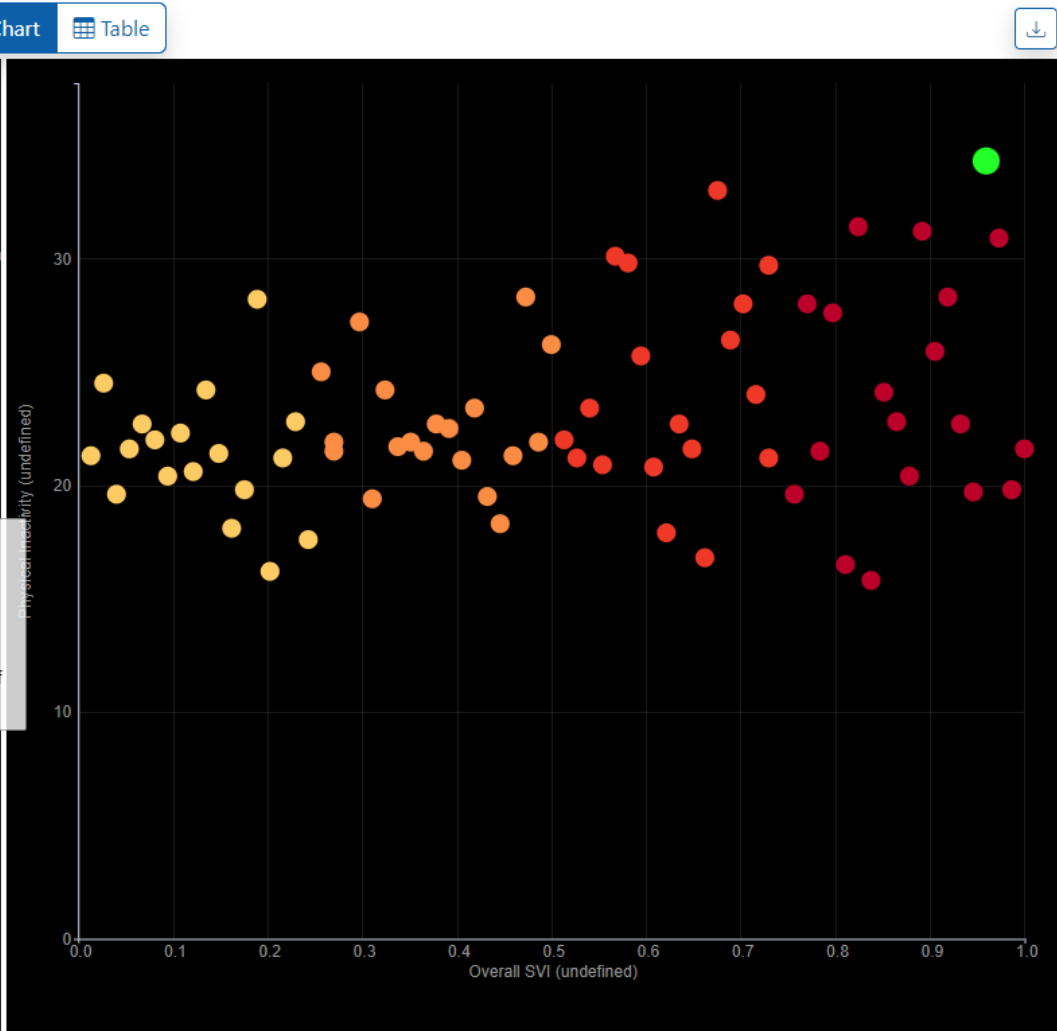
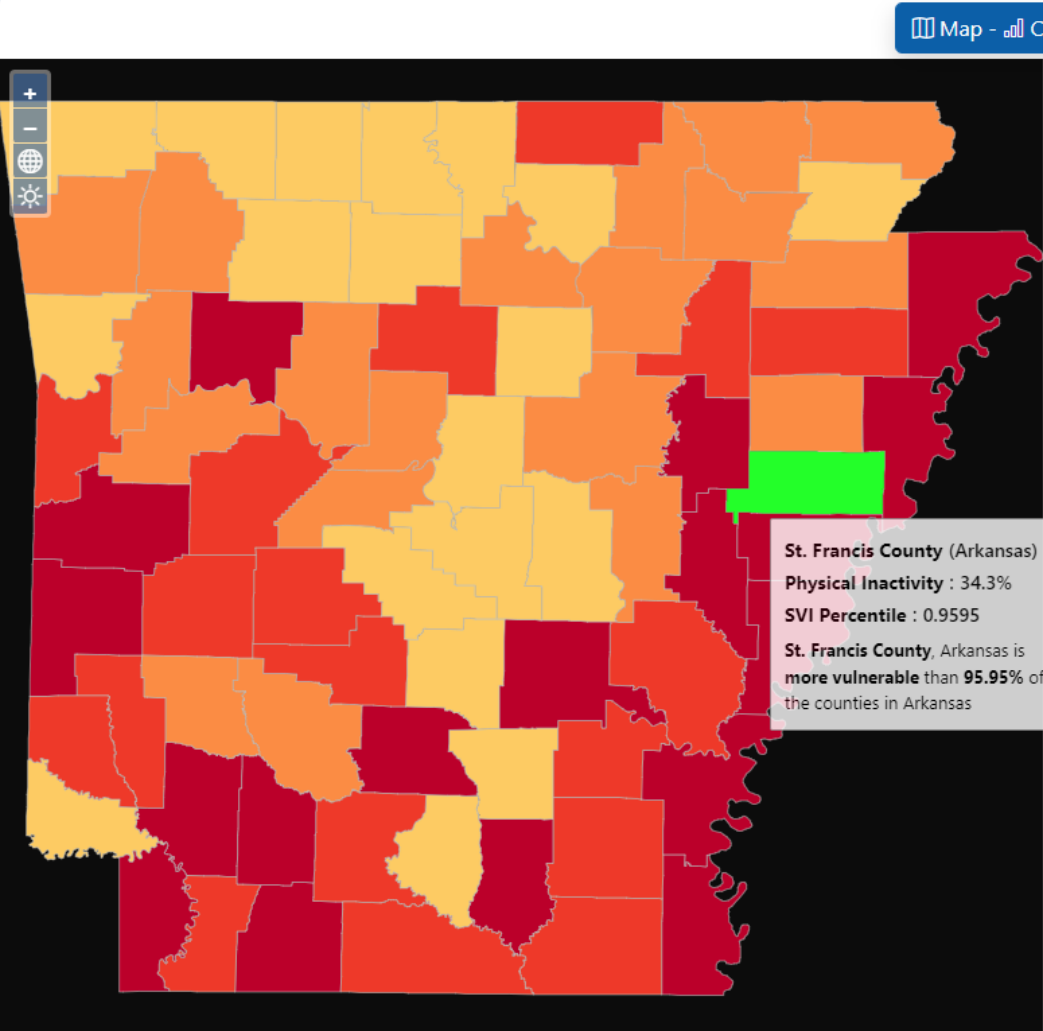
2021

SOCIAL DETERMINANTS OF HEALTH (SDOH)

Social Vulnerability Index (SVI)

Overall SVI

[Read more](#)



Diagnosed Diabetes:Percentage - Arkansas, Natural Breaks; Social Vulnerability Index (SVI), Overall SVI

GEOGRAPHY LEVEL

Search Geography

OR

National **Arkansas**

SURVEILLANCE INDICATORS

Topic:

Burden/Magnitude

Indicator:

Diagnosed Diabetes

[Read more](#)

2021

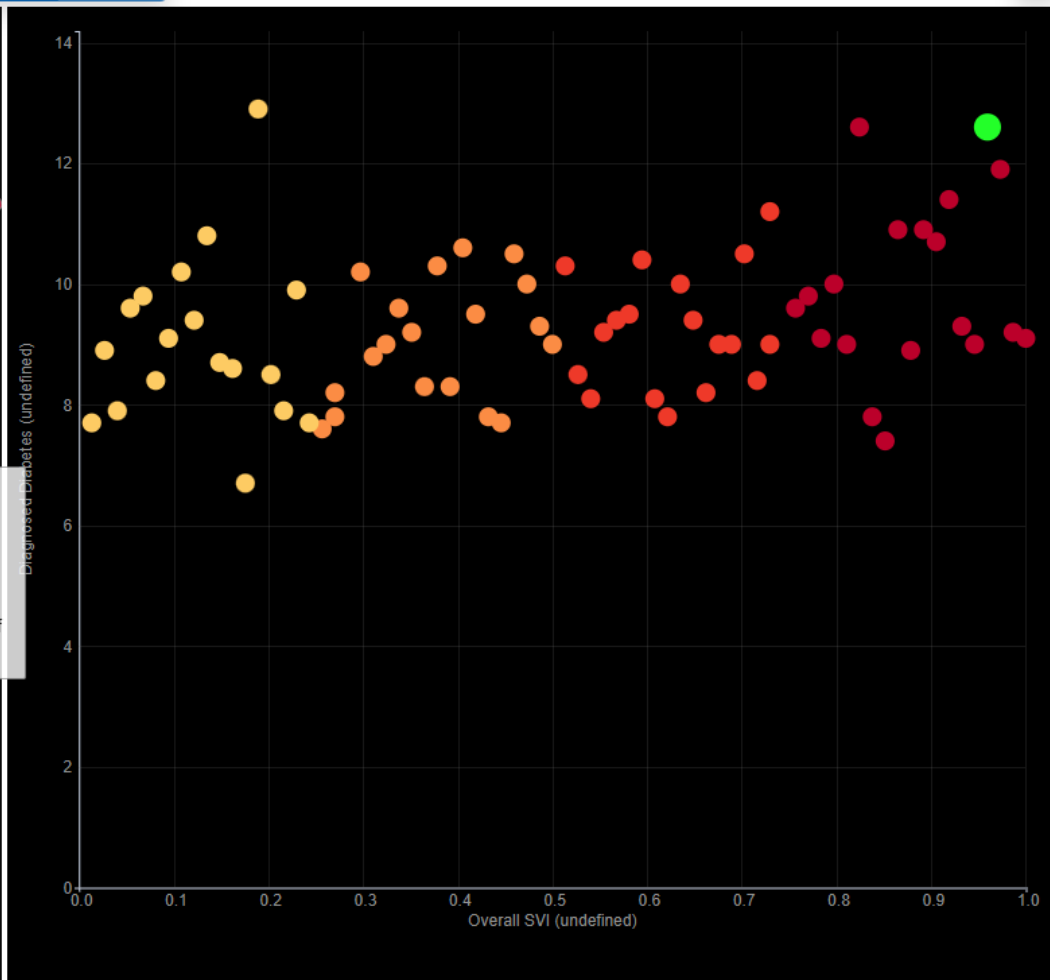
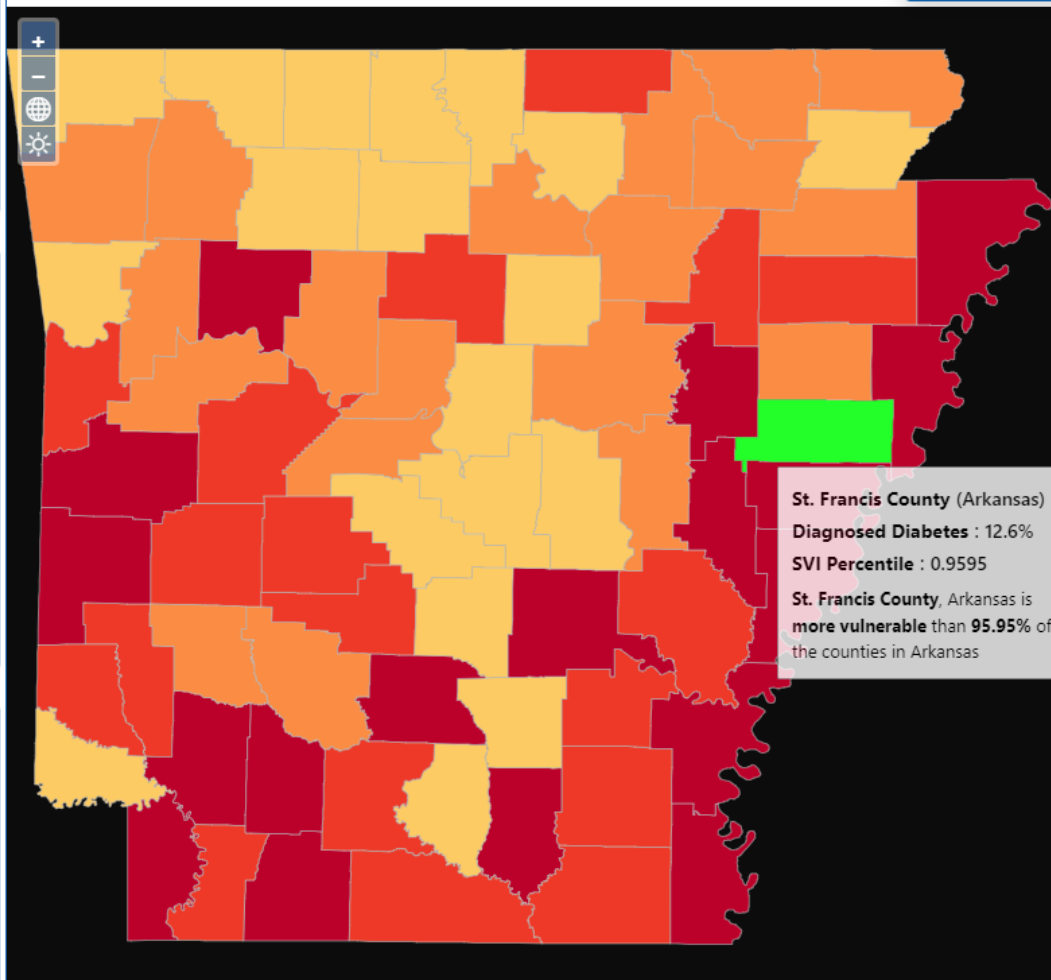
SOCIAL DETERMINANTS OF HEALTH (SDOH)

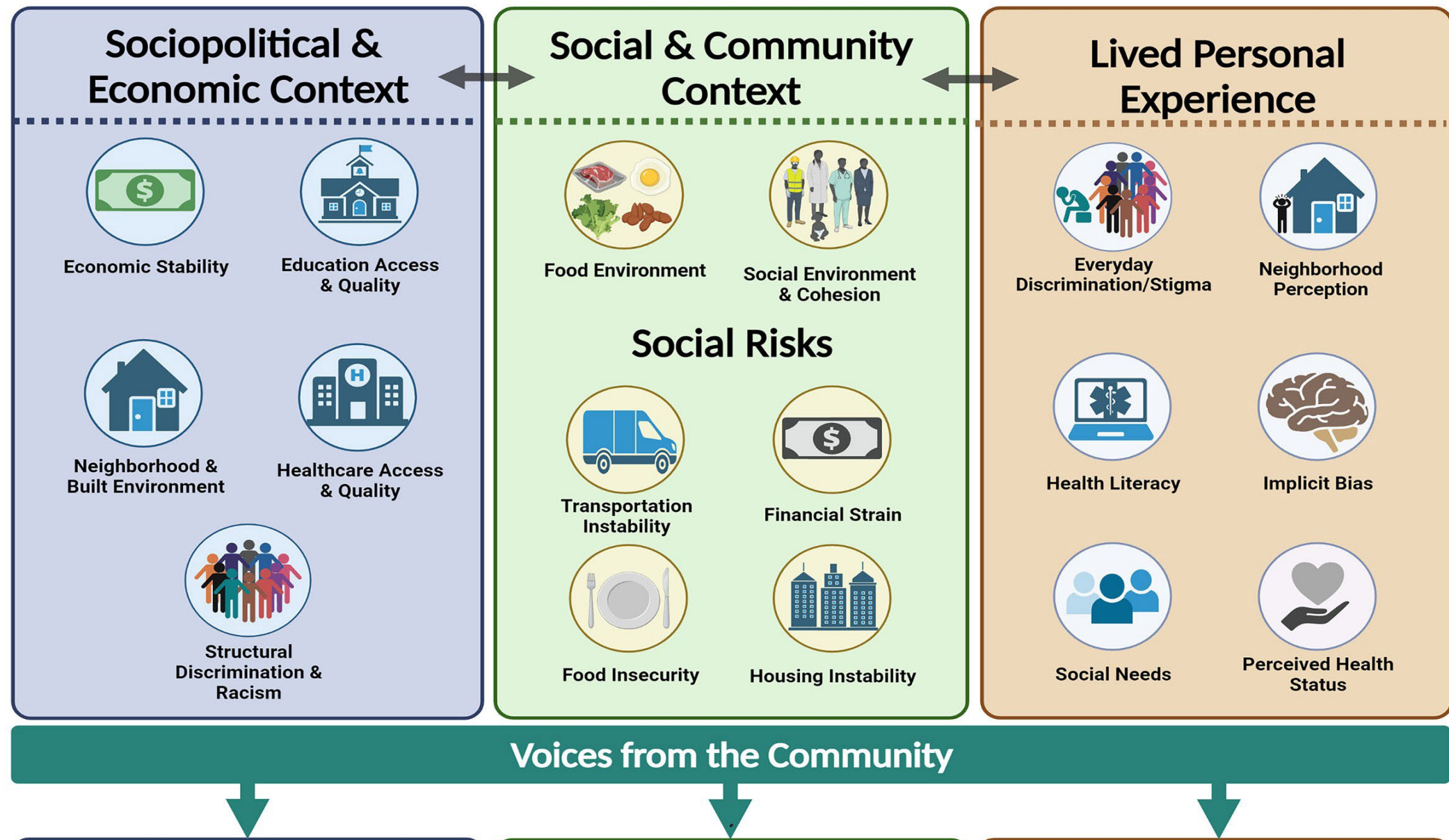
Social Vulnerability Index (SVI)

Overall SVI

[Read more](#)

Map - Chart Table





Policy Interventions

- Improved access to health insurance
- Improved access to education
- Poverty interventions
- Urban planning & community investment
- Prioritization of SDoH-informed CVD research

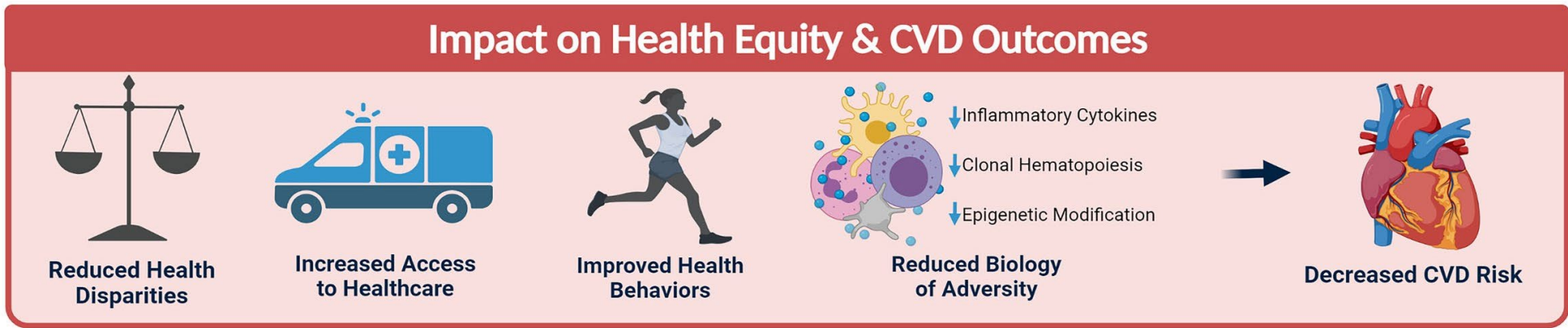
Community Interventions

- Investment in community-based organizations and community health workers
- Quality housing
- Nutritious grocery stores
- Transportation facilities
- Education programs

Individual Interventions

- Health behavior/lifestyle coaching
- Medication management
- SDoH screening at primary care clinics
- Care coordination & collaboration
- Patient navigation & case management
- Income support (cash transfer)
- Patient education

Successful Multi-Level Interventions



Food and Nutrition Security



Food Insecurity - Limited or uncertain availability of nutritionally adequate and safe foods

Food Deserts - Low-income census tracts with a substantial number or share of residents with low levels of access to retail outlets selling healthy and affordable foods

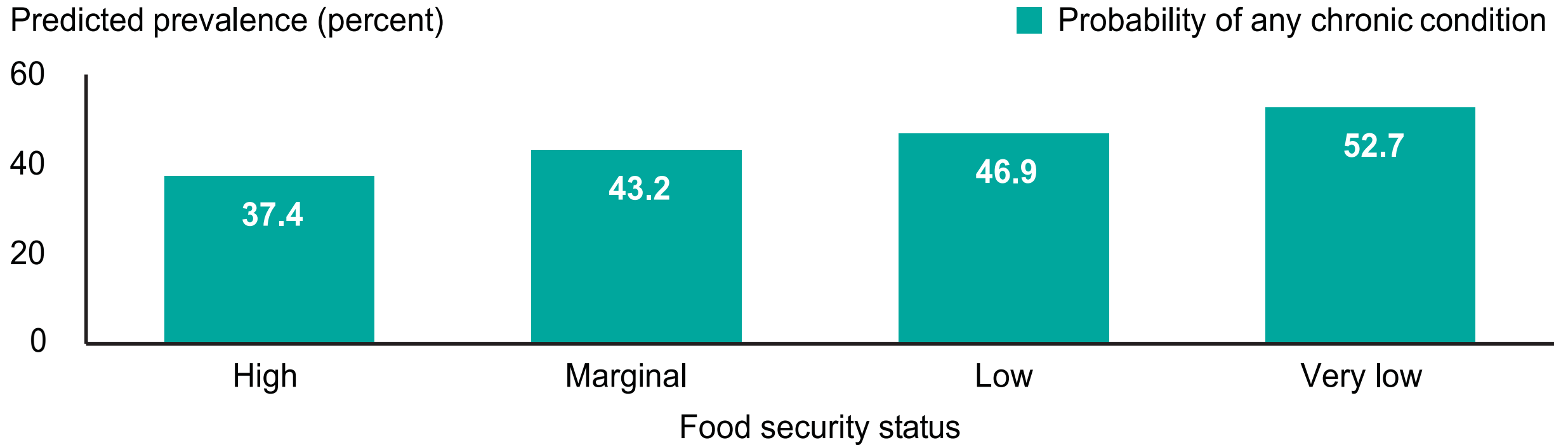
Food Swamps - Fast food and junk food inundate healthy alternatives



Food Insecurity and Chronic Disease



Adults in households with more severe food insecurity are more likely to have a chronic illness



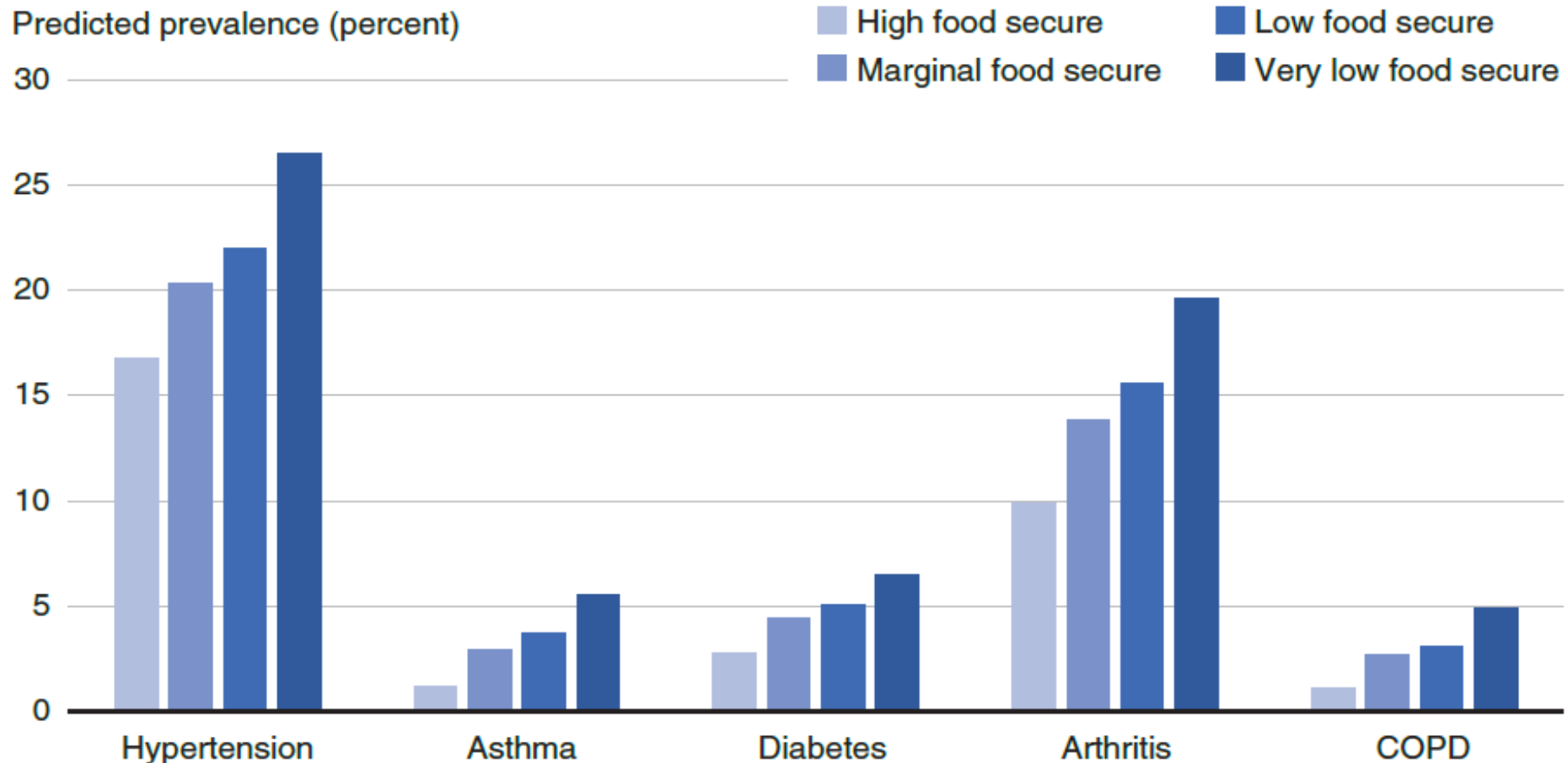
Source: USDA, Economic Research Service calculations using National Health Interview Survey data 2011-2015.

Christian A. Gregory, Alisha Coleman-Jensen. Food Insecurity, Chronic Disease, and Health Among Working-Age Adults, ERR-235, U.S. Department of Agriculture, Economic Research Service, July 2017.

Food Insecurity and Chronic Disease



Predicted prevalence of more common chronic diseases by food security status, adults in low-income households



Christian A. Gregory, Alisha Coleman-Jensen. Food Insecurity, Chronic Disease, and Health Among Working-Age Adults, ERR-235, U.S. Department of Agriculture, Economic Research Service, July 2017.

Food Deserts and Food Swamps



Highest food swamp score - 77% increased odds of high obesity-related cancer mortality

Food swamps - separate phenomenon from food deserts

May play a larger role than food deserts on county-level obesity rates

Call to action - policy makers, funding agencies, and community stakeholders

Implement sustainable approaches to combating obesity and cancer

- Establish access to healthier food
- Create more walkable neighborhoods and community gardens

Bevel MS, Tsai MH, Parham A, Andrzejak SE, Jones S, Moore JX. Association of Food Deserts and Food Swamps With Obesity-Related Cancer Mortality in the US. *JAMA Oncol.* July 2023.

Cooksey-Stowers, K., Schwartz, M. B., & Brownell, K. D. (2017). Food Swamps Predict Obesity Rates Better Than Food Deserts in the United States. *Int J Environ Res Public Health*, 14(11), 1366. <https://doi.org/10.3390/>

White House Conference on Hunger, Nutrition, and Health



Five Pillars:

- 1. Improve food access and affordability**
- 2. Integrate nutrition and health**
- 3. Empower all consumers to make and have access to healthy choices**
- 4. Support physical activity for all**
- 5. Enhance nutrition and food security research**

Community and School Gardens





2010 Farmer Market



Farmer's Markets



SNAP Benefits

Food is Medicine



Considered “a spectrum of programs and services that respond to the critical link between nutrition and health, integrated into healthcare delivery.”

- Medically tailored meals (also called therapeutic meals)
- Medically tailored groceries (food “farmacies” or healthy food prescriptions)
- Produce prescriptions

Pillar 2 - White House National Strategy on Hunger, Nutrition, and Health

Built Environment

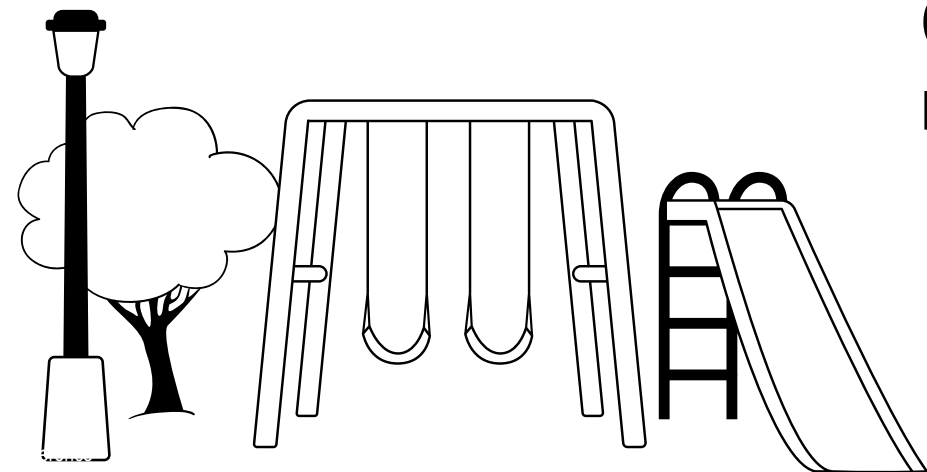


“...the built environment has become a critical intervention and policy tool promoting physical activity.”



- Built environment interventions, (eg, parks, walking paths)
- Community programs (eg, social support programs)
- Policies (eg, Complete Streets policies)

Can make it easier for people to be physically active by removing barriers.



Wang; Steenbergen; van der Krabben; Raaphorst; Hoekman: Impact of the and Social Environment on Physical Activity: A Scoping Review Built Environment

Built Environment Intervention Examples



Creation of or enhanced access to places for physical activity combined with informational outreach activities

Street-scale design and land-use policies

Community-scale design and land-use policies

Active transport to school

Transportation and travel policies and practices

Enhanced access to places for physical activity in and around schools and worksites

Enhanced school-based physical education

Sustainable Communities



Arkansas Walking College



America Walks National Walking College program within Arkansas

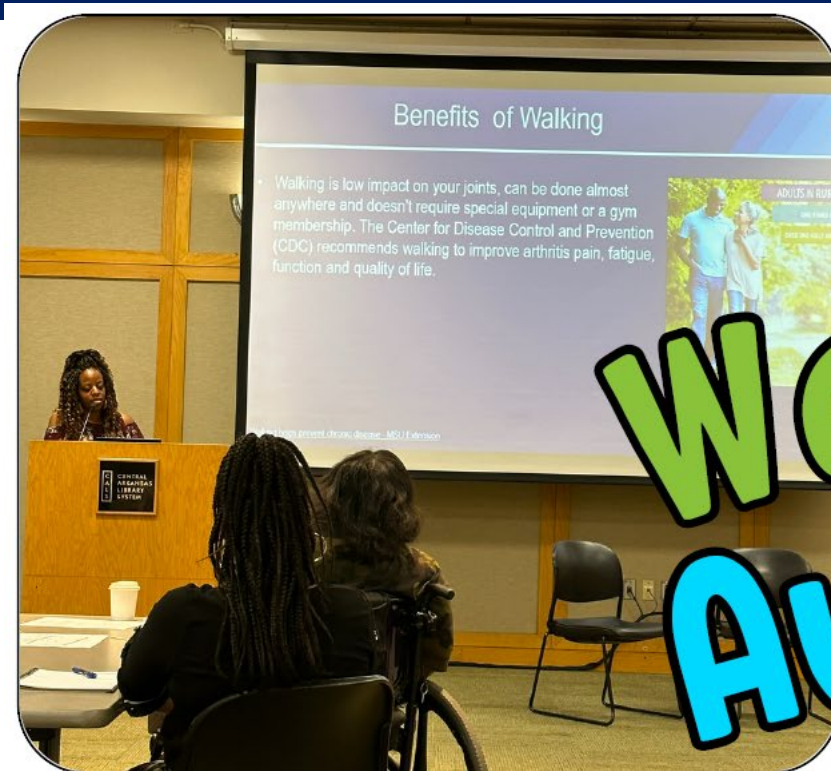
16 week online educational program for walkable community advocates

Goal: build the capacity of local change agents to increase walking and improve walkability in their communities

Walking Action Plan

Focus: organizing for policy change to create safe, walkable, livable communities

Arkansas Walking College



Walk
Audit



Better Beginnings and Go NAPSACC



Child Care Centers Star Requirements

- BB Level 2 and higher: Child Nutrition (complete 1 action plan)
- BB Level 3 and higher: Infant and Child Physical Activity (complete 1 action plan)
- BB Levels 4, 5, and 6, select 1 module for each level (complete 2 action plans)
 - Breast Feeding and Infant Feeding
 - Outdoor Play and Learning
 - Screen Time
 - Farm to ECE
 - Oral Health



“Increased collaboration within and across sectors, including health care, can help to amplify and extend existing efforts to implement the Community Preventative Health Services Task Force recommendation for built environment interventions and to undertake new initiatives to support it.”



Community-Clinical Linkages



Community Sector

Provide services, programs, or resources to community members in non-health care settings

Public Health Sector

Can lead efforts to build and improve linkages between community and clinical sectors

Clinical Sector

Provide services, programs, or resources directly related to medical diagnoses or treatment of community members by health care workers in health care settings



Community-Clinical Linkages Intervention Examples



- Local health action teams to improve connections
- Community food markets
- Cultural education spaces, and community events (screenings and health education)
- Greenspaces, recreational areas, and infrastructure
- Partners using a robust electronic resource network
- Referrals between clinical and community services
- Access and use of educational and lifestyle management sessions in non-clinical settings
- Community Health Workers
- Access to and assistance with social services to individuals who need them

The Role of Interventions in Addressing the Impact of Social Determinants of Health



“National Academies of Sciences, Engineering, and Medicine framework:

- awareness of patients’ social needs through screening,
- adjustment of care to patients’ individual contexts,
- connecting patients to community resources,
- enabling institutions to prioritize resources in line with patient needs,
- and promoting policies that expand social care resources.”

American Heart Association:

- SDOH education for cardiovascular health providers at all levels
- Tools using electronic health records to incorporate SDOH screening and referrals into clinical practice
- SDOH interventions to address upstream determinants of CVD such as poverty, education, and health care coverage

National Diabetes Prevention Program



- Decision making, problem solving, stress management, and priority setting can help participants overcome SDOH.
- Respects participant dignity and autonomy to make health behavior changes with support from lifestyle coaches.
- Relationship between participants and lifestyle coaches can ↑ self-efficacy.
- Relationships between participants can provide long-term social support.



What if?



What if your community had access to healthy food options? You could walk or ride your bike to a farmer's market?

What if your community had affordable housing? Located within walking distance of healthcare and entertainment?

What if your community had access to green spaces? Places for your children, your pets and the elderly?

What if your community provided a sense of belonging? You knew your neighbors like family?

What if your community was a “livable community”?

Questions?



Contact Us



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References



- *Addressing HRSN through the national DPP Lifestyle Change Program*. National DPP Coverage Toolkit. (2024a, May 22). <https://coveragetoolkit.org/health-equity/addressing-hrsn-through-the-national-dpp-lifestyle-change-program/>
- Association of State Public Health Nutritionists. (2024, January 10). Food and nutrition security primer – section three: Food and nutrition security terms and definitions. <http://asphn.org/food-and-nutrition-security-primer-terms/>
- Bevel MS, Tsai MH, Parham A, Andrzejak SE, Jones S, Moore JX. Association of Food Deserts and Food Swamps With Obesity-Related Cancer Mortality in the US. *JAMA Oncol.* 2023 Jul 1;9(7):909-916. doi: 10.1001/jamaoncol.2023.0634. PMID: 37140933; PMCID: PMC10160992 Christian A. Gregory, Alisha Coleman-Jensen. Food Insecurity, Chronic Disease, and Health Among Working-Age Adults, ERR-235, U.S. Department of Agriculture, Economic Research Service, July 2017.
- Centers for Disease Control and Prevention. (2022a, December 7). *NCCDPHP's approach to social determinants of health*. Centers for Disease Control and Prevention. <https://www.cdc.gov/health-equity-chronic-disease/sdoh-and-chronic-disease/nccdphps-approach-to-social-determinants-of-health.html>
- Centers for Disease Control and Prevention. (2023, August 9). *Addressing conditions to improve population health (action)*. Centers for Disease Control and Prevention. <https://www.cdc.gov/populationhealth/sdoh/ACTion-funding-awardees.htm>
- Centers for Disease Control and Prevention. (n.d.). *Health and economic benefits of diabetes interventions*. Centers for Disease Control and Prevention. <https://www.cdc.gov/nccdphp/priorities/diabetes-interventions.html>

References



- Christian A. Gregory, Alisha Coleman-Jensen. Food Insecurity, Chronic Disease, and Health Among Working-Age Adults, ERR-235, U.S. Department of Agriculture, Economic Research Service, July 2017.
- Cooksey-Stowers, K., Schwartz, M. B., & Brownell, K. D. (2017). Food Swamps Predict Obesity Rates Better Than Food Deserts in the United States. *International journal of environmental research and public health*, 14(11), 1366. <https://doi.org/10.3390/ijerph14111366> *Connecting SDOH and HRSN to prediabetes and type 2 diabetes*. National DPP Coverage Toolkit. (2024b, February 13). <https://coveragetoolkit.org/health-equity/connecting-sdoh-and-hrsns-to-prediabetes-and-type-2-diabetes/>
- *Connecting SDOH and HRSN to prediabetes and type 2 diabetes*. National DPP Coverage Toolkit. (2024c, February 13). <https://coveragetoolkit.org/health-equity/connecting-sdoh-and-hrsns-to-prediabetes-and-type-2-diabetes/>
- Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved 5/7/2024, from <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>
- Leveraging State and National Health Equity Initiatives. National DPP Coverage Toolkit. (2024d, May 31). <https://coveragetoolkit.org/health-equity-and-the-national-dpp/connecting-to-state-and-national-initiatives/>

References



- Omura, J. D., Carlson, S. A., Brown, D. R., Hopkins, D. P., Kraus, W. E., Staffileno, B. A., Thomas, R. J., Lobelo, F., & Fulton, J. E. (2020). Built environment approaches to increase physical activity: A science advisory from the American Heart Association. *Circulation*, 142(11), p.e162. <https://doi.org/10.1161/cir.0000000000000884>
- Powell-Wiley TM;Baumer Y;Baah FO;Baez AS;Farmer N;Mahlobo CT;Pita MA;Potharaju KA;Tamura K;Wallen GR;, T. M., Baumer, Y., Baah, F. O., Baez, A. S., Farmer, N., Mahlobo, C. T., Pita, M. A., Potharaju, K. A., Tamura, K., & Wallen, G. R. (2022, March 3). *Social Determinants of Cardiovascular Disease*. *Circulation research*. <https://www.ahajournals.org/doi/10.1161/CIRCRESAHA.121.319811#:~:text=Social%20determinants%20of%20health%20%28SDoH%29%2C%20which%20encompass%20the,factors%20as%20well%20as%20CVD%20morbidity%20and%20mortality>
- Tiffany M. Powell-Wiley. *Circulation Research*. *Social Determinants of Cardiovascular Disease*, Volume: 130, Issue: 5, Pages: 782-799, DOI: (10.1161/CIRCRESAHA.121.319811)
- Wang, Y., Steenbergen, B., van der Krabben, E., Kooij, H. J., Raaphorst, K., & Hoekman, R. (2023). The Impact of the Built Environment and Social Environment on Physical Activity: A Scoping Review. *International journal of environmental research and public health*, 20(12), 6189. <https://doi.org/10.3390/ijerph20126189>
- Zhong, J., Liu, W., Niu, B., Lin, X., & Deng, Y. (2022). Role of Built Environments on Physical Activity and Health Promotion: A Review and Policy Insights. *Frontiers in public health*, 10, 950348. <https://doi.org/10.3389/fpubh.2022.950348>