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# Briefing: Health Implications of the Supplemental Nutrition Assistance Program (SNAP)

# Agenda

Views expressed are those of the researchers and do not necessarily represent the official opinion of the related Department(s), University of Pennsylvania Health System (Penn Medicine), or the University of Pennsylvania.

- 3 INTRODUCTIONS
- 4 BACKGROUND HEALTH IMPLICATIONS
- 7 SNAP RELATED POLICIES
- 9 METHODOLOGY TO EXAMINE CAUSALITY
- 10 PREVIOUS RESEARCH PROJECTS
- 14 FUTURE WORK
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# Introductions



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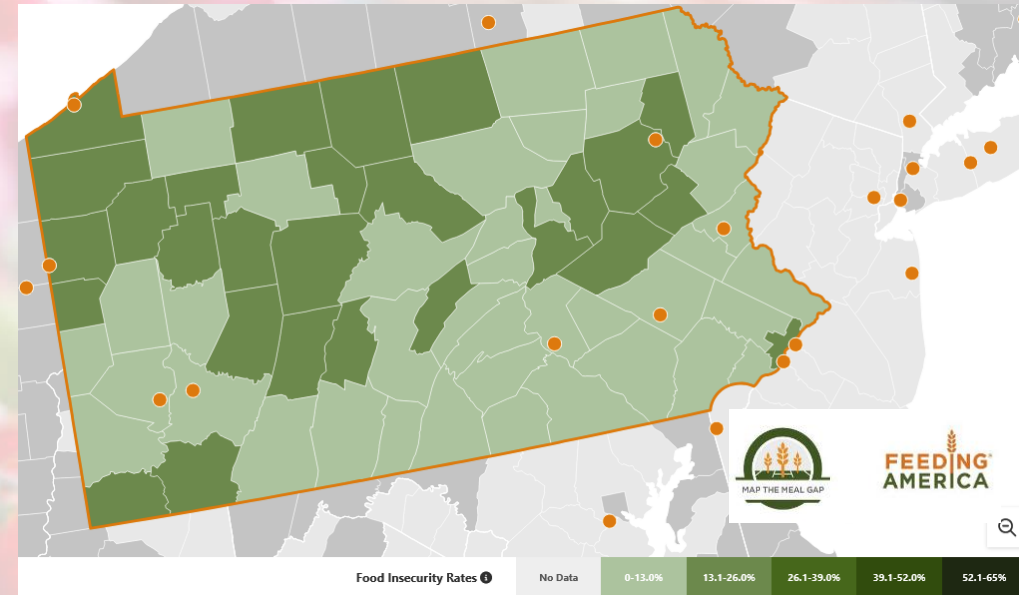


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# Background

Food insecurity is an economic and social condition of limited or uncertain access to adequate food.

- **13.5% (18.0 million)** of U.S. households were food insecure at some time during 2023.
- In [Pennsylvania](#), there were **1,540,900** food insecure individuals in 2021.
- Rates of food insecurity have increased since 2021, rising by 30% between 2021 and 2022 in central Pennsylvania



# Health Implications of Food Insecurity



**Higher Chronic Disease Rates:** Low-income, food-insecure adults (ages 18–65) have higher rates of chronic diseases including hypertension, diabetes, coronary heart disease, and heart failure.



**Developmental Risks for Children:** Food-insecure children face increased developmental problems compared to food-secure peers.



**Mental Health Effects:** Limited access to nutritious food negatively impacts children's mental health.






**Increased Obesity Risk:** Food-insecure adults and children are at a higher risk for obesity.

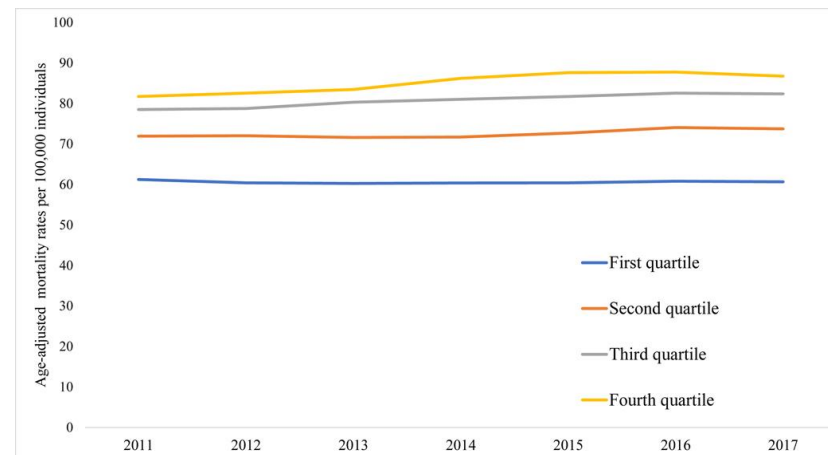
From 2011 to 2017, an increase in food-insecurity in U.S. counties was associated with an increase in cardiovascular mortality rates for non-elderly adults, independent of changes in demographic, economic and healthcare access factors.

# Food Insecurity and CV Mortality

## Food Insecurity and Cardiovascular Mortality for Nonelderly Adults in the United States From 2011 to 2017: A County-Level Longitudinal Analysis

Stephen Y. Wang, MD, MPH, Lauren A. Eberly, MD, MPH, Christina A. Roberto, PhD, Atheendar S. Venkataramani, MD, PhD, Peter W. Groeneveld, MD, MS , and Sameed Ahmed M. Khatana, MD, MPH   | [AUTHOR INFO & AFFILIATIONS](#)

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# State SNAP-related policies

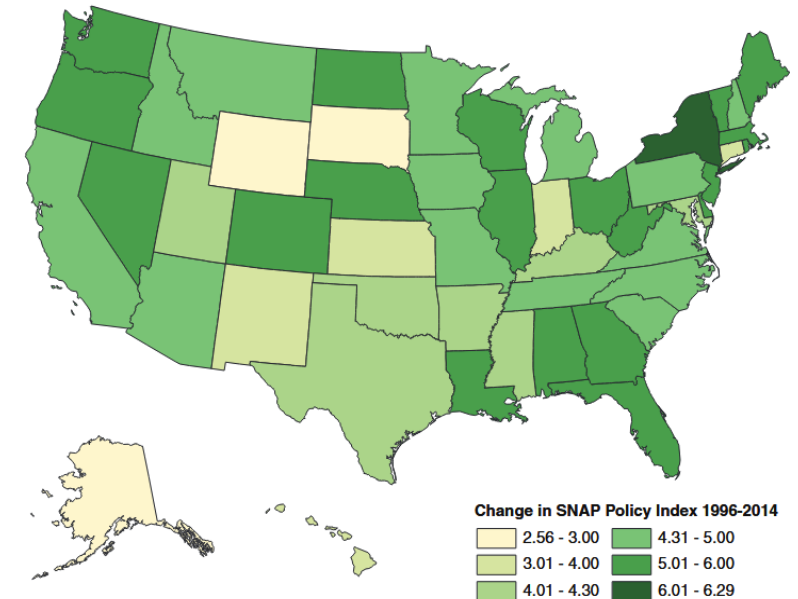
Although federally funded, SNAP is administered at the state level. Variation in SNAP policies leads to variation in eligibility and participation rates.

Exogenous source of variation that can be utilized to understand the association between SNAP and different outcomes.

	Contribution to SNAP Index
<i>Policies affecting eligibility</i>	
Exempts at least one but not all vehicles from SNAP asset test	+
Exempts all vehicles from SNAP asset test	+
Broad-based categorical eligibility (BBCE)	+
Eligibility restrictions for adult noncitizens	-
<i>Policies affecting transaction costs</i>	
Proportion of working households with short recertification periods (1-3 months)	-
Simplified reporting	+
Online application availability	+
<i>Policies affecting stigma</i>	
Mean proportion of State benefits issued via electronic benefits transfer (EBT)	+
Fingerprinting required during application	-
<i>Policies affecting outreach</i>	
Federally funded radio or TV ad	+

Note: SNAP = Supplemental Nutrition Assistance Program.  
Source: USDA, Economic Research Service, SNAP Policy Database.

Figure 1  
Changes in the SNAP Policy Index, 1996-2014



Note: SNAP = Supplemental Nutrition Assistance Program.  
Source: USDA, Economic Research Service, SNAP Policy Database.

# Methodologies

**G-computation** is a statistical approach for assessing policy impacts in the presence of *confounding*:

- *Confounding*: States with higher SNAP policy indices tend to have **higher rates of Medicaid enrollment and lower rates of food insecurity**, both of which independently influence cardiovascular health.

This approach aims to capture how cardiovascular outcomes would evolve if we could “**swap**” **policies** between states:

- *What if states with high SNAP indices had lower indices instead?*
- *What if states with low SNAP indices had higher indices instead?*

Three Key Steps:

- **Modeling**: Determine the relationship between SNAP policies, Cardiovascular health, and confounding variables
- **Simulating**: Predict health outcomes under “swapped” policies
- **Comparing**: Assess how cardiovascular health changes under these new policies.



State policies aimed at increasing SNAP participation were independently associated with a lower rise in diabetes prevalence between 2004 and 2014.

- Between 2004 and 2014, a **1-point increase** in the SNAP policy index was linked to a **0.050 percentage point decrease** in the annual prevalence of diabetes

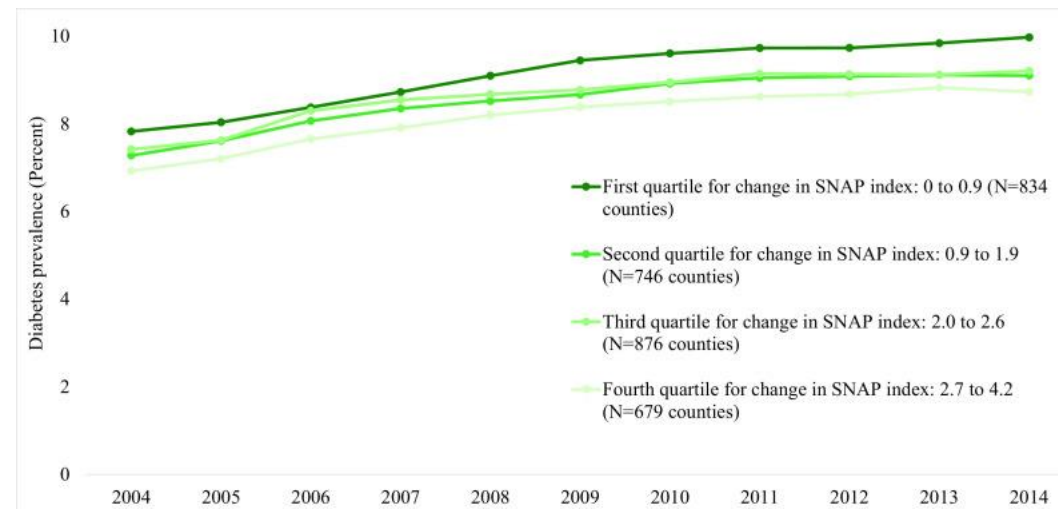
# SNAP and Diabetes Prevalence

Changes in Supplemental Nutrition Assistance Program Policies and Diabetes Prevalence: Analysis of Behavioral Risk Factor Surveillance System Data From 2004 to 2014

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*Diabetes Care* 2021;44:2699–2707 | <https://doi.org/10.2337/dc21-1203>

Annual diabetes prevalence by quartile of change in SNAP Index



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# Other Research



Participation in SNAP was associated with **fewer inpatient admissions** and **lower health care costs** for older adults dually eligible for Medicare and Medicaid (Berkowitz, Basu, 2021).

- Enrollment in SNAP was also associated with approximately \$2360 lower annual Medicaid spending per person.



SNAP enrollment is associated with reduced health care spending among low-income American adults, a finding consistent across several analytic approaches (Berkowitz, Basu, 2017).

- SNAP participants are estimated to save **\$1,409** on health care costs annually than non-participants.

# Ongoing Research Projects



How do changes in **SNAP benefit amounts** affect **medication adherence, healthcare use, and cardiovascular outcomes?**

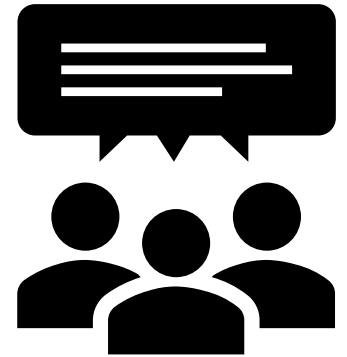
# Ongoing and Future Projects



Assess whether  
**state SNAP**  
policies impact  
acute  
**cardiovascular**  
events among  
low-income  
adults.

Examine whether  
**SNAP participation**  
improves **medication**  
**adherence**,  
**psychosocial stress**,  
and **healthcare**  
**utilization** among low-  
income adults with  
cardiovascular  
disease.

# What future work would be helpful?



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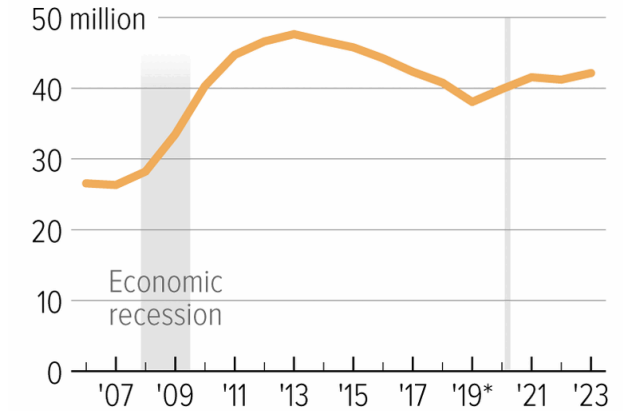


# Supplemental Nutrition Assistance Program

- The Supplemental Nutrition Assistance Program (SNAP) is the largest government funded program in the US providing food-purchasing assistance, with approximately **42.1 million participants in 2023** (USDA)
- **This important countercyclical program and has been associated with significant decreases in poverty levels** in the US, particularly during economic downturns.
- 6.6 million people kept out of poverty in 2015-2019 due to SNAP (CBPP). Every \$1 spent on SNAP associated with a \$1.5 increase in GDP (USDA)
- SNAP participation associated with improvements in food insecurity among low-income households.



Participants in average month, fiscal year



\*USDA data adjusted for early issuance of February 2019 benefits in January 2019 due to government shutdown.

Source: Department of Agriculture

CENTER ON BUDGET AND POLICY PRIORITIES | CBPP.ORG

Figure 4. Participating in SNAP for Six Months was Associated with a Decrease in the Percentage of Households That Were Food Insecure

