Individual and Household Determinants of Child Food Insecurity and Hunger

Craig Gundersen

University of Illinois

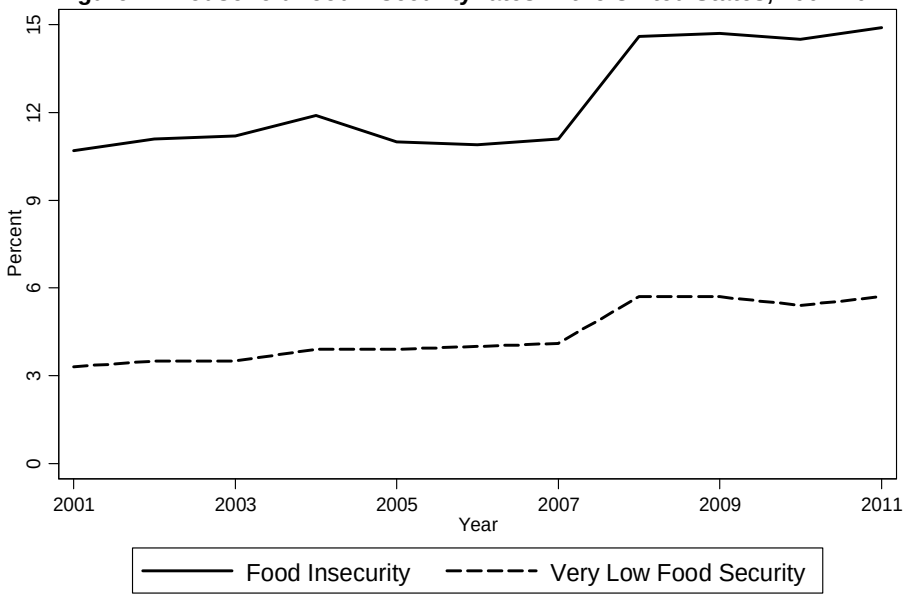
Professor, Department of Agricultural and Consumer Economics

Executive Director, National Soybean Research Laboratory

Defining Food Insecurity

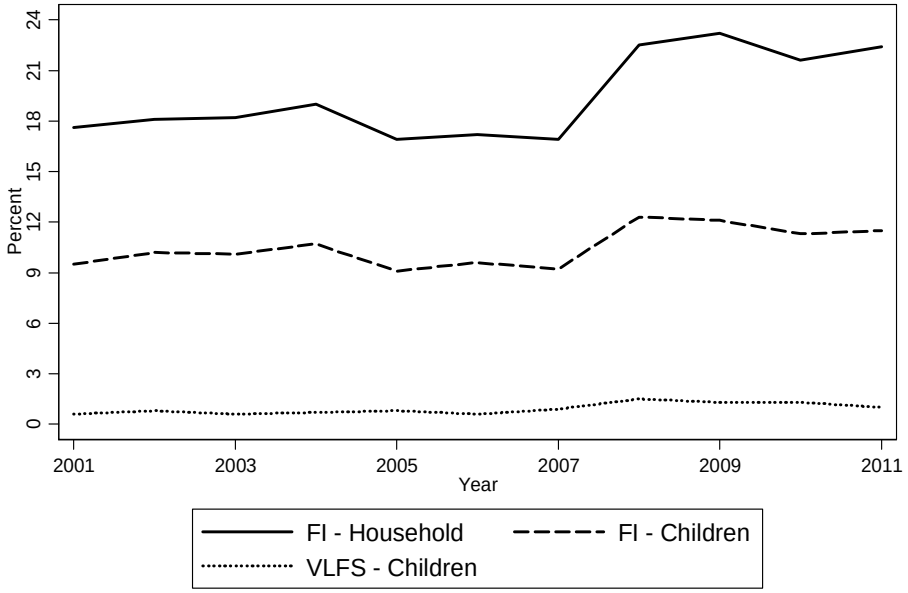
- A household's food insecurity status is based on responses to 18 questions in the Core Food Security Module (CFSM)
- Examples of questions:
  - "I worried whether our food would run out before we got money to buy more"
  - "Did you or the other adults in your household ever cut the size of your meals or skip meals because there wasn't enough money for food"
  - "Were you ever hungry but did not eat because you couldn't afford enough food"
  - "Did a child in the household ever not eat for a full day because you couldn't afford enough food"
- Categories
  - Food insecure if have 3 or more affirmative responses
  - Very low food secure if have 8 or more affirmative responses
    - 6 or more for households without children
  - Very low food security among children if have 5 or more affirmative responses to child-specific questions

Figure 1: Household food insecurity rates in the United States, 2001-2011



Note: Figure is based on data from Coleman-Jensen et al. 2012, Table 1A

Figure 2: Food insecurity among Children in the United States, 2001-2011



Note: Figure is based on data from Coleman-Jensen et al., 2012, Table 1B

Frameworks used to Identify Determinants of Food Insecurity

$Fi_i = f(E_i , D_i , FA_i)$

where i denotes a household

E denotes economic factors

D denotes demographic factors

FA denotes participation in food assistance programs

Frameworks used to Identify Determinants of Food Insecurity

$FI_{it} = g(E_{it} , D_{it} , FA_{it})$

where t denotes a time period

$FID_i = h(E_i , D_i , FA_i)$

$FID_{iT} = h(E_{iT} , E_{iT-1} , \dots , D_{iT} , D_{iT-1,} \dots , FA_{iT} , FA_{iT-1},\dots)$

Research Program on Childhood Hunger

- Round One
  - Large Grants
    - Garasky, Steven. IMPAQ International. Nonresident Fathers' Involvment and Welfare Policies: Impacts on Childhood Hunger.
    - Jones, Sonya. University of South Carolina. How Can Communities and Households Protect Children from Very Low Food Security?
    - Kaushal, Neeraj. Columbia University. Understanding Very Low Food Security among Children in the U.S.
    - Mills, Gregory. Urban Institute. The Dynamics of Food Insecurity and Effective Coping Strategies for Households at Risk of Childhood Hunger.
    - Moffit, Robert. Johns Hopkins University. Food Hardship in the Low Income Population: Child Focused Evidence from the Three City Study

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Research Program on Childhood Hunger

- Round One
  - Small Grants
    - Balistreri, Kelly. Bowling Green State University. Family Structure and Time Allocation: Mechanisms of Food Insecurity among Children.
    - Heflin, Colleen. University of Missouri. Families with Hungry Children and the Transition from Preschool to Kindergarten.
    - Jacknowitz, Alison. American University. Food Insecurity across the First Five Years: Triggers of Onset and Exit.
    - Kreider, Brent. Iowa State University. Identifying the Effects of WIC on Very Low Food Security.
    - Mills, Bradford. Virginia Tech University. The Impact of Household Labor Market Shocks on Child Food Insecurity.
    - Wallace, Sally. Georgia State University. The Impact of Incarceration on Food Security of Children.
    - Watson, Tara. Williams College. The Effect of Safety Net Programs on Food Insecurity.
    - Zhang, Qi (Harry). Old Dominion University. Availability and Accessibility of Emergency Food Assistance and Food Insecurity among American Children.

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Research Program on Childhood Hunger

- Round Two
  - Large Grants
    - Anater, Andrea. RTI International. Understanding the Interdependencies among Three Types of Coping Strategies Used by Very Low Food Secure Households with Children.
    - Bartfeld, Judith. University of Wisconsin. Understanding Very Low Food Security and Other Food Hardships among Households with Children.
    - Chilton, Mariana. Drexel University. Childhood Stress: A Mixed Methods Analysis of the Intergenerational Circumstances of Childhood Hunger.
    - Danziger, Sheldon. University of Michigan. Economic Shocks, Neighborhood Food Infrastructure and Very Low Food Security.
    - Loibl, Cäzilia and Anastasia Snyder. Ohio State University. Connecting Saving and Food Security: Evidence from an Asset Building Program for Families in Poverty.
    - Schanzenbach, Diane Whitmore. Northwestern University. New Evidence on Why Children's Food Security Varies Across Households with Similar Incomes.
    - Sharkey, Joseph. Texas A&M. Understanding Very Low Food Security among Children of Mexican-Origin: The Circumstances and Coping Strategies of Mexican-Origin Families in Texas Border Colonias.

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Research Program on Childhood Hunger

- Round Two
  - Small Grants
    - Cook, John. Children's HealthWatch. Risk and Protective Factors Associated with Prevalence of VLFS in Children among Children of Foreign-Born Parents.
    - Fitzpatrick, Katie. Seattle University. Financial Services and Food Insecurity among Households with Children.
    - Jensen, Helen. Iowa State University. The Effect of Household Financial, Time and Environmental Constraints on Very Low Food Security among Children.
    - Kennedy, Sheela. University of Minnesota. Food Insecurity During Childhood: Understanding Persistence and Change Using Linked Current Population Survey Data.
    - Powers, Elizabeth. University of Illinois. Parenting Practices and Attitudes: Children's Food Security in the Nexus of Parent Behavior.

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Research Program on Childhood Hunger

- Round Three
  - Large Grants
    - Corman, Hope. Rider University. Family Health Shocks and Young Children's Food Insecurity.
    - Eicher-Miller, Heather. Purdue University. Understanding the Immediate and Long-Term Effects of Supplemental Nutrition Education Program-Education as an Intervention to Improve Food Security among Households with Children in Indiana.
    - Rose-Jacobs, Ruth. Children's HealthWatch. Child Food Insecurity in Families with Young Children with and without Special Health Care Needs.

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Research Program on Childhood Hunger

- Round Three
  - Small Grants
    - Bauer, Katherine. Temple University. The Effect of In-Classroom Breakfast Feeding on Children's Food Security and Participation in the School Breakfast Program.
    - Courtemanche, Charles. Georgia State University. Do Big Box Grocers Improve Food Security? Evidence from the National Health and Nutrition Examination Surveys.
    - Denny, Justin. Rice University. Contextualizing Food Insecurity Among Children: Do Neighborhood Characteristics Shape the Risk?
    - Frisvold, David. Emory University. Understanding the Relationship between the School Breakfast Program and Food Insecurity.
    - Hamersma, Sarah. University of Florida. Very Low Food Security and Teenage Labor Supply.
    - Turney, Kristin. University of California, Irvine. Unintended Consequences of Mass Incarceration: Explaining the Relationship between Paternal Incarceration and Food Insecurity among Young Children.

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Identified Determinants (Static)

- Lower income
- Having someone with a disability in the household
- Being in a single-parent household
- Household head is non-Hispanic black
- Household head is Hispanic
- Immigrants in household
- Older children
- More children
- Low levels of education
- Not a homeowner
- Having a parent who was every incarcerated
- Not having a grandparent in the household

Identified Determinants (Static)

- Lack of financial management skills
- Household head is American Indian
- Being at high risk of homelessness
- Summertime
- Unemployment
- Not receiving child support
- Having a non-custodial father who does not visit regularly
- Lack of access to social capital
- Not speaking English in the home
- Having a cigarette smoker in the home

Identified Determinants (Dynamic)

- Changes in residence
- Declines in child health
- Declines in maternal health

Identified Determinants (Dynamic)

- Negative income shocks
- Changes in household composition
- Lack of assets
- Becoming unemployed

Open Questions about Determinants

- Why does disability status matter?
  - Food access issues?
  - Barriers to labor market?
  - Health care costs?
- Does type of immigration status matter?
  - Documented versus undocumented
  - Citizen versus non-citizen
- Why does education matter?
  - Measure of human capital?
  - Proxy for financial management skills?

Open Questions about Determinants

- Why are so many poor households food secure?
  - Financial management skills?
  - Knowledge about how to get by on less?
  - Underreporting of income?
- Why are so many non-poor households food insecure?
  - Fixed expenses?
  - Lack of access to food assistance programs?
  - Lack of knowledge about how to get by on less?
- How does the structure of multi-generational families influence food insecurity?
  - Less expensive form of child care?
  - Ability to prepare meals at lower-cost?

Open Questions about Determinants

- How do determinants differ by whether participating in SNAP?
  - Persons with disabilities
  - Households with recent changes in structure
  - Multi-generational households
- How do determinants differ by whether actually receiving meals through NSLP and WIC?
  - Role of declining participation in NSLP as children age
  - Role of declining participation in WIC as children age

Open Questions about Interpretations

- What are the relative magnitudes of various determinants?
- How do determinants differ by whether we consider
  - Incidence of food insecurity
  - Depth of food insecurity
  - Severity of food insecurity
- How might different determinants influence responses to food security questions?
- What insights can we draw from the research on food insecurity in developing countries?

Open Questions about Interpretations

- What consequences of food insecurity might actually be determinants of food insecurity?
- How do results from U.S. compare with other countries?
- Why are food expenditures often inconsistent with responses to food insecurity questions?
- Examination of questions about "how much more money is needed to be food secure"
- How might effects of determinants differ if children rather than adults were asked food security questions?

Data Issues

- Who is being overlooked in our sampling frames?
  - Homeless persons
  - Persons who are marginally housed
  - Recent immigrants
  - Persons without immigration documentation
- Need for qualitative data
  - Transdisciplinary teams to establish
  - Use economic theory in establishing questions
- Need for data with more specifics about food spending and food access
  - ERS FoodAPPS data set
- Need for panel data sets over longer time periods
  - Dynamic determinants
  - Duration of food insecurity

Individual and Household Determinants of Child Food Insecurity and Hunger
Discussant Comments

Alisha Coleman-Jensen
Economic Research Service, USDA
acjensen@ers.usda.gov

Presentation at the Committee on National Statistics Workshop on Research Gaps and Opportunities in Child Hunger and Food Insecurity
April 8, 2013

United States Department of Agriculture
Economic Research Service
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Main Point

The ***reason to understand determinants*** of children's food insecurity AND the mechanisms by which those determinants operate **is to improve the design and targeting of programs and policies meant to improve food security**.

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Presentation Overview

- Determinants of food insecurity at what level of severity?
- What about the mechanisms through which determinants affect food insecurity? (ex: disabilities)
- Do we need to identify more determinants or figure out how to use what we know about determinants?
- Policy questions related to determinants

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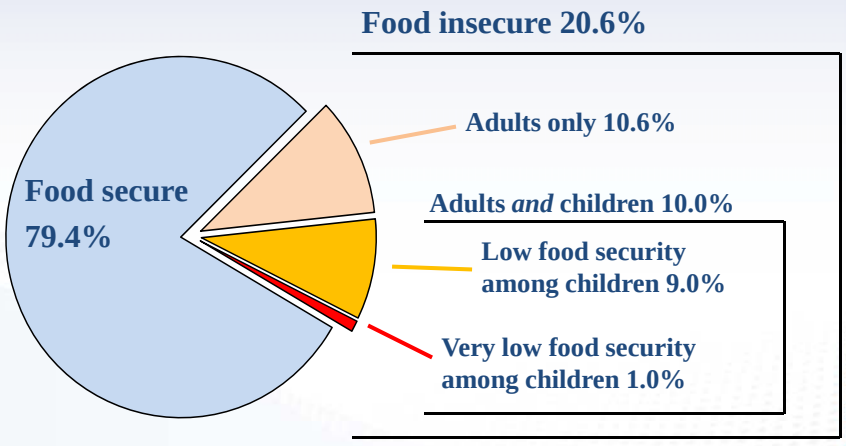
Households with children by food security status, 2011



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Levels of severity
Where should we focus?

- **Children in food-insecure households**
  - Detrimental effects on development, whether or not children are experiencing direct reductions in the quality or quantity of their intake
- **Households with food insecurity among children or VLFS among children**
  - Probably more severe consequences for children

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VLFS=Very Low Food Security

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Determinants of food insecurity at what level of severity?

- We know most about determinants of the broader condition of food insecurity
- We know less about VLFS among children
  - Small sample sizes (in 2011 CPS-FSS sample: 127 households with VLFS among children)
- Are determinants of VLFS the same as the determinants of food insecurity?

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Understanding *how* determinants affect food insecurity

- Important determinant of food insecurity:
  - Disability status

- More to learn:
  - Types of disabilities
  - Long-term health impairments
  - Children with disabilities
  - **Mechanisms:** *How* disabilities affect food security
    - Direct effects of disabilities on food provisioning
    - Etc.

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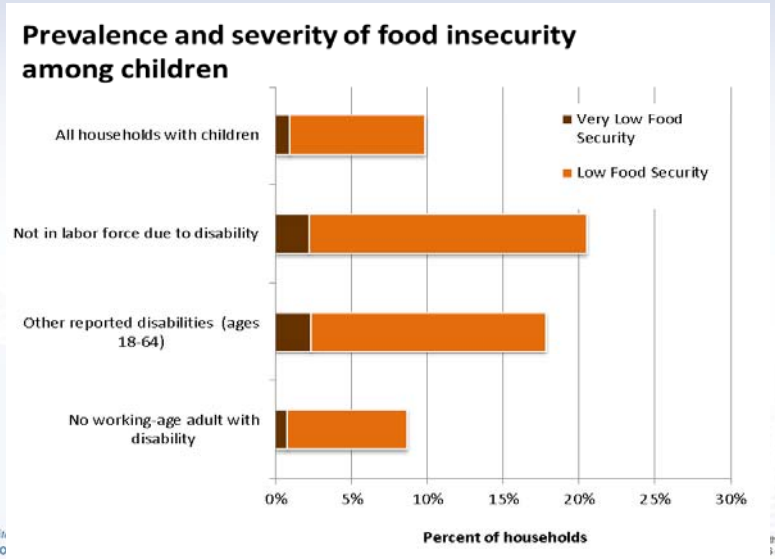
Prevalence of food insecurity among children, by disability status of working-age adults in the household, 2010-11 average (CPS-FSS)



New Research Opportunities

- National Health Interview Survey
  - Includes 10-item adult, 30-day food security questionnaire in 2011, 2012, 2013
  - Includes data on disabilities and health impairments for all household members
  - Examine long-term health conditions as determinants of food insecurity, and other health conditions as outcomes of food insecurity
  - Large nationally representative sample that is source for many federal health statistics

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Do we need to identify more determinants or figure out how to use what we know?

- Guiding question:
  - How much variation in food insecurity is explained by known determinants?

    95%? … 50%? … 25%? …

  - The answer would help to guide research investments in identifying more causes or understanding more about known determinants.

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Determinants are important, but translating into policy and targeting specific populations are difficult.

- Important not to lose sight of characteristics of majority of food-insecure households
- A simplified example:
  - Unemployment is a key determinant of food insecurity
  - Households with full-time workers are much less likely to be food insecure
  - But, most households with children include a full-time worker (about 82%)
  - So, the majority of food-insecure households actually include a full-time worker

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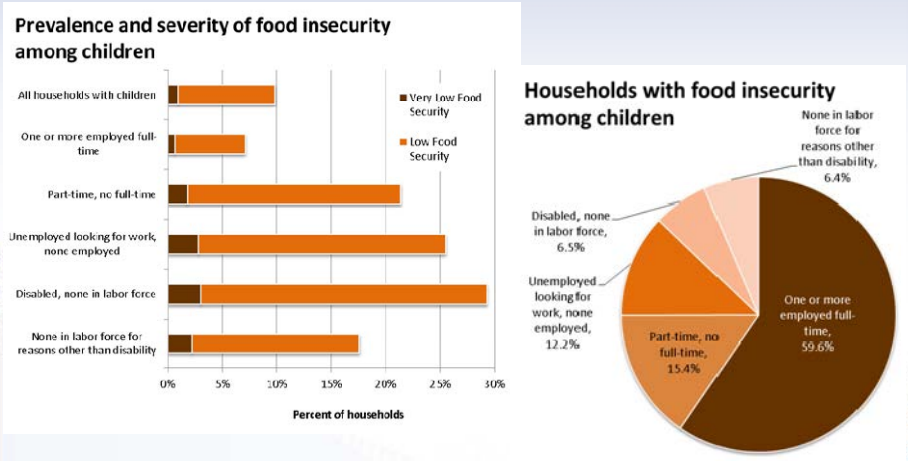
Prevalence and Distribution of food insecurity among children, by employment and labor force status of adults in the household, 2010-11 average (CPS-FSS)



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Research → Policy

- Current food assistance programs
  - Target low-income as the primary determinant of food insecurity
- Can we effectively target other determinants of food insecurity with policy or programs such as …
  - Time constraints for at home food preparation
  - Financial management skills
  - Physical disabilities that make it difficult to get to a store

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Specific vs. general programs

- Do we target *specific* programs or interventions *to specific populations*, even if they represent a small segment of the population?
  - i.e. specific program for persons with disabilities
- Or do we do less targeting and more general policies/programs/interventions that apply to a broad segment of the population?
  - For example, SNAP with special provisions for persons with disabilities.

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Back to severity…

- Should (Federal) research and program interventions be targeted at:
  - The ***tip of the iceberg***?
    - greater severity (food insecurity among children, 10% or very low food security among children, 1%)
  - *or* at the ***whole iceberg***?
    - less severe condition that affects more children (food insecurity in households with children, 21%)?
- ***Can*** we shrink the tip without shrinking the whole iceberg?

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Conclusion: How should we spend $10 million dollars on research?

- Returning to key questions:
  - Focus research at what level of severity?
  - Understand more about mechanisms?
  - Try to identify more determinants?
- The ***reason to understand determinants*** of children's food insecurity ***AND*** the ***mechanisms*** by which those determinants operate **is to improve the design and targeting of programs and policies meant to improve food security**.

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Food Security in a Spatial Context

Scott W. Allard
Associate Professor, University of Chicago
School of Social Service Administration

Director, University of Chicago Urban Network

Paper presented at the Workshop on Research Gaps and Opportunities on the Causes and Consequences of Child Hunger
Committee on National Statistics, National Academy of Sciences
Food and Nutrition Board, Institute of Medicine

April 8-9, 2013

Organization of Presentation

- **Key Questions and Tasks**
- **Why Consider "Place"?**
- **Terms and Definitions**
- **Possible Causal Pathways**
- **State of the Literature**
- **Methodological Challenges**
- **Prioritizing Next Steps in Research Agenda**
- **Discussion Questions**

Key Questions and Tasks

- **How are place or contextual factors related to food insecurity and hunger?**
  - Spatial access to food resources
  - Safety net programs – public and private
  - Political and policy environment
  - Food pricing and economic conditions
- **Review the current literature – what do we know?**
  - Is existing evidence sufficient to make causal claims, or merely associational?
  - Where do data or research gaps exist?
- **How to prioritize research efforts moving forward?**

Why Consider "Place"?

- **Food behavior and outcomes vary spatially**
  - Reason to believe spatial correlations have causal component
- **Food resources and assistance are located in space**
- **Growth in studies of food deserts and grocery access**
  - Powerfully shaped national and local food policy agendas
- **Better understanding of place effects could mean . . .**
  - Improved household and child food security
  - Insight into individual and household coping strategies
  - Better individual and household model estimates
  - More efficient allocation of public and philanthropic resources
  - Ideas for innovative solutions and interventions

Terms and Definitions

- **Food security**
  - **USDA guidelines and CPS Food Security Supplement**
- **Place and distance**
  - **State, county, municipality, tract, neighborhood**
  - **Euclidean distance versus commuting time/mode**
  - **Buffers or catchment areas**
- **Food resources**
  - **Supermarkets, grocery stores, convenience or specialty stores**
  - **Restaurants, fast food establishments**
  - **SNAP offices, food pantries, soup kitchens, informal social support**
- **What is access?**
  - **Adequate food resources available within a reasonable commute**
  - **Affordability and eligibility**
  - **Nutritious content and recommended daily allowances**

Possible Causal Pathways

- **Spatial Access to Food Retailers**
- **Safety Net Programs – Public and Private**
- **Economic and Social Conditions**
- **Political and Policy Environment**

Spatial Access to Food Retailers

- **Why it matters:**
  - Lower commute costs and time costs
  - Supermarkets > grocery/convenience/specialty stores
  - Community food security = complement to food assistance
  - Popular perception that "food deserts" are prevalent
- **Food retailer data comes from proprietary sources**
  - Lack of consistency and comprehensiveness
- **Varied operationalization of spatial accessibility**
  - No agreement about what constitutes inadequate access
  - Reasonable commute v. location in zip code/tract
  - Different measures in same locations = highly correlated

Evidence - Spatial Access to Food Retailers

- **Studies find race and class differences in neighborhood distance to nearest supermarket or to store-counts**
  - **Gallagher (2006): African-American neighborhoods in Chicago are 40% farther from nearest chain grocery store than white neighborhoods**
- **Other studies find small or no differences by race and class**
  - **Some evidence that low-income and minority communities have greater access to supermarkets**
  - **Non-chain groceries/specialty stores are more accessible to low-income and minority communities**
- **Bartfeld, Ryu, and Wang (2011): Only very long distances to stores (+15 miles) related to food insecurity**
- **Assumptions about distance, mode of commuting, and type of store matter**
  - **Vast majority of households are within 1 mile of a supermarket, many use cars**
- **Biggest problems in rural, suburban, and segregated areas**

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Summary and Next Steps

- Mix of approaches, data, and sites = mix of results
- Access to food retailers not often linked to food security
  - Assumptions about poverty rates
  - Cross-sectional analyses and asset maps
- Is statistically significant = substantively significant?
- Next steps:
  - Improve measurement and conventions
  - Link access to individual/household outcomes
  - Focus on particularly at-risk areas and groups

Safety Net Programs

- **Why place-based variation in safety net matters:**
  - Safety net assistance can increase household food budgets
  - Social service programs can improve well-being and work earnings
  - Food pantries and religious congregations = first responders
  - Proximity to assistance programs = increased take-up ➔ greater food security
    - Bundling of different services and programs
  - Density of programs can lead to greater collaboration among community-based organizations
    - Resource guides, advocacy, intervention, referrals, and awareness
  - Accessibility of formal child care centers
- **Kissane (2010); Neckerman et al. (2009): physical environment; concerns of stigma; safety/violence; presence of police/security; mobile services**

Evidence - Safety Net Programs

- **Food stamps/SNAP = most common focus in literature**
  - **Transportation barriers/commuting costs affect program take-up**
  - **Bartfeld and Dunifon (2006): access to food assistance is positively related to food security**
  - **Nord and Golla (2009): SNAP receipt associated with improved food security over time**
- **Relatively little research examines food pantry access**
  - **Allard (2009): low-income and predominately minority neighborhoods have 40-50% less access to emergency assistance providers**

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Summary and Next Steps

- Empirical research lagging behind
- SNAP administrative data = promising
- Next Steps:
  - How receipt and bundling of assistance shapes food budgets and food shopping
  - Integrate social service programs more explicitly
  - Connect food security and program participation and exits/attrition

Economic and Social Conditions

- **Why economic and social context matters:**
  - **Store locations shaped by supply & demand, and built environment**
  - **Food prices & purchase power of food assistance vary by geography**
  - **Labor market conditions, housing costs, and energy prices vary by state, region, and metropolitan area**
  - **Informal social support from family and friends**
  - **Civic structure and social capital**
  - **Crime, violence, and safety**
- **Local-level data available for certain aspects of economic/social context more than others**

Evidence - Economic and Social Conditions

- **Supermarkets and supercenters found to be less expensive – many low-income households shop at these types of stores**
  - **Lots of variation across different regions and types of places**
- **Some evidence of affordable, healthy food options in low-income neighborhoods – primarily ethnic groceries**
- **WIC voucher purchasing power varies geographically**
- **Higher unemployment rates, lower average wages, higher costs of living related to greater food insecurity**
- **Perceptions of civic structure strength positively related to food security**
- **Social support more prominent coping strategy in rural areas**

Evidence - Economic and Social Conditions

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Summary and Next Steps

- Good theory and empirical work to build upon
- Many economic and social factors highly correlated with each other and food resource accessibility
- Next steps:
  - What creates gaps and mismatches in access? Why do food deserts exist?
  - Connect prices to shopping behavior and practices
  - Model effects of context over time
  - Attention to civic community and safety concerns

Political and Policy Environment

- **In a decentralized, devolved safety net – there are several possible pathways:**
  - State policy environment: SNAP eligibility and modernization; TANF; state EIC/tax burden
  - Policy to increase access to food resources (e.g., store creation, mobile, delivery)
  - Efforts of local schools or child care facilities to support food assistance program takeup
- **Key findings:**
  - Variation in state SNAP policy affects take-up and recertification
  - Tax burden on low-income households related to food security
- **Next steps: identify key causal pathways ➔ develop valid measures ➔ connect to food security**

What Don't We Know?

- **How food security varies by place**
- **If food deserts exist, why they exist**
- **Need more robust theory of place effects and food behavior**
  - Associations ≠ causal mechanisms or pathways
  - Transportation resources v. distance access
  - Resource-constraints v. household preferences
  - Shopping practices and behaviors
- **What does it mean to have adequate access to food resources?**
- **How does access shift over time and are those shifts related to food outcomes in HHs?**
  - Connect to food security measures

Methodological Challenges

- Data limitations
  - Grocery store data lacks key detail and is incomplete/inconsistent across proprietary sources
  - Panel data needed to assess food security and behavior over time, but with geographic sensitivity
  - Accurate information on non-store place effects
- Different underlying processes in urban, rural, and suburban areas
- Conventions around key terms and concepts
  - Several methods-focused papers on food deserts
- Endogeneity and self-selection issues

Prioritizing Research

- Survey data that links different food behaviors to different features of place over time
  - How does food resource access change and why?
- Better understanding of what is purchased, where, and for how much
- Connections between food assistance and food security
- Understanding how community institutions matter
- Natural experiments and behavioral economic experiments
- Using technology and "big data" efforts to generate new data sources and new measures

Questions for Discussion

- **Which policies most likely vary by place to shape access to food resources?**
- **How might place effects operate differently in different types of places (i.e., urban v. suburban v. rural)?**
- **Which (mixed) methodological approaches will best advance understanding of causal paths and relationships?**
- **What data should we seek to create or construct?**
- **Which at-risk groups should receive priority focus? How do we design studies to reach these groups?**
- **Are there promising place-related interventions to reduce food insecurity?**
- **What types of knowledge products can be created to translate research findings into tangible, actionable steps?**

Is "Place" the Silver Bullet??

Lucia Kaiser, PhD RD
Cooperative Extension Specialist
University of California at Davis
April 8, 2013

Overview

- Re-visit causal pathways
- A closer look at food deserts
- Some thoughts on reaching the "hard to reach"

Possible Causal Pathways

- Spatial proximity to food retailers
  - Need to combine GIS data and perceptions of proximity
- Safety net programs
  - Need to uncouple "application" from "program delivery"
- Political & policy environment
  - Pilot before full roll-out of policy
- Food prices & economic conditions
  - Seasonality factors (employment)

Could there be too much "hype" about food deserts?

- Few studies have compared perceived and objective distance to grocery stores and/or supermarkets
- Study in 20 low-income housing projects (n=828) in MA reported a mismatch of **31%** between measured distance and perception that supermarket was "within walking distance"
- Tapping into different constructs or unmeasured individual or place-based characteristics

Caspi et al Soc Science Medicine 2012; 75: 1254-1262

Relationship of Measured & Perceived Distance to Supermarket to Servings of Fruit and Vegetables (n=828 low-income adults)

Variable	Beta (SE) P-value	Beta (SE) P-value
Distance from housing to supermarket (km)	0.23 (.17) <0.22	
Perception that supermarket is "within walking distance" (yes/no)		0.48 (.12) <0.0001
Food insecurity (yes/no)	-0.26 (.12) <0.02	-0.21 (.11) <0.05
Controlling for income, age, gender, country of origin		

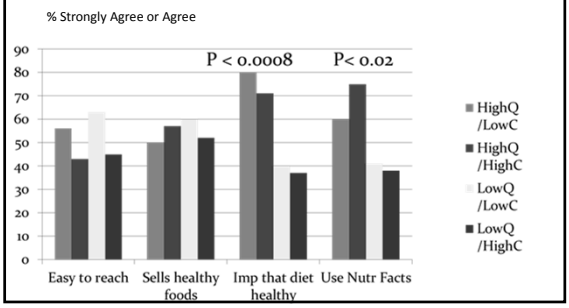
Caspi et al Soc Science Medicine 2012; 75: 1254-1262

Correlates of a high quality, low-cost diet in low-income women, n=117

		Diet Quality (Based on Healthy Eating Index 0-100)	
		High (HEI >=52)	Low (HEI <52)
Diet Cost, Based on Food Receipts & 24 hr recalls	Low < $4.88/ day		
	High >= $ 6.81/ day		

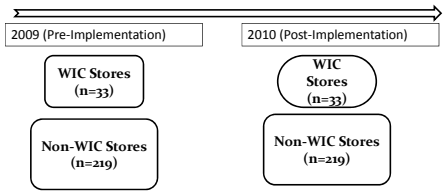
Kaiser L, Aaron G, Lamp C, Martin A, Smith D, Keim N, Townsend MS, 2006

Correlates of a high quality, low-cost diet in low-income women (n=117)



Can food assistance policies change local availability of healthy foods?

WIC & Non-WIC stores in 2009 & 2010 in Connecticut



(Andreyeva et al JAND; 2012: 112)

WIC stores showed greater improvement in availability of healthy foods after implementation of the revised WIC Food Packages

Regression Model Variables	Healthy Food Supply Score (range 0-31) n=252
WIC Store (yes/no)	1.99*
Year=2010 (yes/no)	0.41*
Year*WIC Store	4.12***
Store located in higher income area	-0.45
Store size (> 2 cash registers) (>=3 cash registers)	2.98** 7.96***
Distance of store to nearest supermarket	1.55***
Store accepts SNAP yes/no	1.13**

(Andreyeva et al JAND; 2012: 112) * P<0.05; ** P <0.01; ***P < 0.001

Can food assistance policies change local availability of healthy foods?

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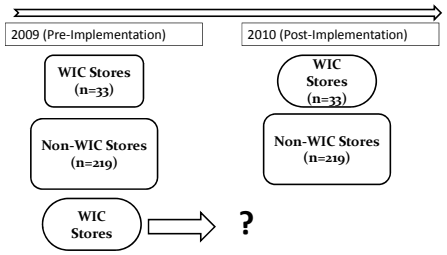
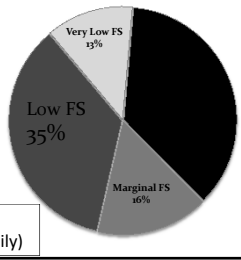


(Andreyeva et al JAND; 2012: 112) * P<0.05; ** P <0.01; ***P < 0.001

What is the value of community-based participatory research studies in those "hard to reach" populations?



Niños Sanos, Familia Sana
(Healthy Children, Healthy Family)

Final thoughts

- Mixed methods studies (not just GIS mapping)
- Pilot studies of new innovations in food assistance programs
- Community-based participatory approaches to study those "hard to serve populations"=long-term commitment, new research teams
- Small case studies worthwhile to study possible mechanisms

Questions for Discussion

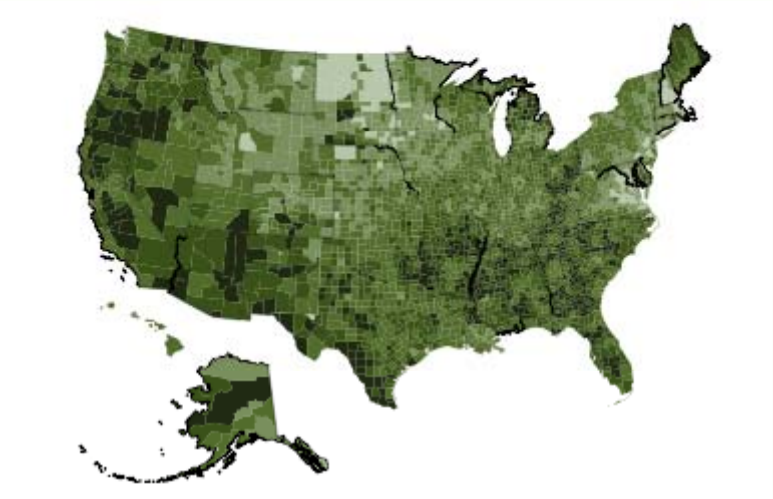
- How can we advance research to study impact of policy changes on "place issues" (for example, changes in WIC food packages on stores)?
- How can we conduct studies in populations at highest risk?

Food Security Across the Urban-Rural Continuum: Research Gaps and Opportunities

Bruce Weber
Oregon State University

Workshop on Research Gaps and Opportunities in Child Hunger and Food Insecurity
Committee on National Statistics, National Academy of Sciences
Food and Nutrition Board, Institute of Medicine
April 8-9, 2013
Washington DC

Geography of Child Food Insecurity: 2010



Source: Feeding America, Mind the Meal Gap, 2012

Child Food Insecurity Across the Urban-Rural Continuum: 2011

	Percent of Households that are Food Insecure	Percent of Households with Children that are Food Insecure	Percent of Households with Food Insecure Children
All counties	14.9	20.6	10.0
Metropolitan Counties	**14.9**	**20.3**	**9.9**
•Principal Cities	***17.7***	***24.2***	***12.0***
•Outside Principal Cities	13.2	17.9	8.8
Nonmetropolitan Counties	**15.4**	**22.0**	**10.4**

Source: ERS, Household Food Security in the United States in 2011, September 2012

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Role of Public Policy in Food Security

Change the economic context so that households can develop their capacities and earn sufficient incomes

- Macroeconomic policies
- ***Place specific investments***

Provide a social safety net that provides services and income supplements for those who do not have adequate incomes

- ***Food, Housing, Energy, Childcare assistance***

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Different Spatial Contexts, Different Causal Pathways?

Economic and Social Conditions

- Focus has been on demographics, poverty, food prices, job access, housing and energy costs
- Many of the studies are cross-sectional studies of county level data

Safety Net Programs: Public and Private

- Focus has been on SNAP participation

Different pathways may require different policies

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Some Research Opportunities: Economic and Social Conditions (1)

Economic conditions

- How much, if at all, do local economic conditions (job opportunities, wage rates, unemployment, housing costs, food costs, childcare costs)
  - affect participation in food assistance programs and
  - moderate their effects on food insecurity?
- Mixed methods using household level data with geographic identifiers
- Answers would help in program design and government investment decisions

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Some Research Opportunities: Economic and Social Conditions (2)

For research that links household data with geographic identifies, better measures of local economic conditions are needed in two dimensions

- Measures of condition: housing costs, food costs, energy costs, food access, jobs available to those with limited skills (% low wage jobs, % contingent jobs, % part time jobs, underemployment rate)
- Geographic scale: counties may be the best scale for many measures. Would sub-county or multi-county estimates be useful for some indicators?

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Some Research Opportunities: Safety Net Programs (1)

Cross-program participation dynamics and impact:

- How are cross-program dynamics (food assistance, energy assistance, housing assistance) and employment dynamics different across the urban-rural continuum?
- How are program and work dynamics affected by personal demographics, local economic conditions and program design?

Geographic coverage of programs to meet local needs

- How well matched geographically are Federal food assistance programs and emergency food programs to the food security needs in different places?

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Some Research Opportunities: Safety Net Programs (2)

SNAP: Is there a "new normal" regarding food assistance program participation since the recession?

- Are changes in participation related to changes in job opportunities, food prices, and policies or a more general change in norms regarding participation?
- Are changes in participation rates different across the urban-rural continuum?
- Mixed methods research and post-recession panel data
- Answers would help in budget forecasting, designing program rules and program administration

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Why Neglect of Places in Policy Research?

- People can move to other places to improve their income opportunities and food security
- Changing "places" is very costly way to achieve better food security
- Changing "places" doesn't always improve low-income job-holding and food security (because others may move in to benefit from improved places).
- BUT some people will not move and places shape outcomes by affecting household resources and decisions. In order to develop and implement policies that address food security, we need to understand context

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